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COMPARISON BETWEEN NAVY AND ARMY IMPLEMENTATION OF SIOH AND RECOMMENDATIONS FOR NAVY IMPLEMENTATION

December 2015

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AND RECOMMENDATIONS FOR NAVY IMPLEMENTATION**

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Submitted in partial fulfillment of the requirements for the degree of

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December 2015**

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This report compares the Naval Facilities Command (NAVFAC) implementation and financial management of supervision, inspection and overhead (SIOH) with the implementation and financial management of Supervision and Administration (S&A) by the U.S. Army Corps of Engineers (USACE) based on available documentation and instructions. This analysis finds no major differences in implementation that would benefit the Navy. Based on this analysis, the authors recommend updating and revising the NAVSO P-1570 *Military Construction Financial Management Handbook*.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	OVERVIEW.....	1
B.	RESEARCH QUESTIONS.....	2
C.	BENEFITS OF THE STUDY	3
D.	SCOPE	3
E.	CASE STUDY ANALYSIS AND METHODOLOGY	4
F.	ACQUISITION AND CONSTRUCTION.....	4
II.	NAVAL IMPLEMENTATION OF SUPERVISION, INSPECTION AND OVERHEAD ACCOUNTS	7
A.	NAVFAC OVERVIEW	7
B.	NAVFAC FINANCIAL MANAGEMENT ORGANIZATION	11
C.	SUPERVISION, INSPECTION AND OVERHEAD (SIOH).....	14
1.	General Discussion of SIOH	14
2.	SIOH Financial Management	17
3.	Documentation Controlling SIOH.....	21
a.	<i>USC Title 10, Subtitle A, Part IV, CH 169, Subchapter I, Section 2802: Military Construction Projects.</i>	<i>21</i>
b.	<i>USC Title 10, Subtitle A, Part IV, CH 169, Subchapter I, Section 2851: Supervision of Military Construction Projects.....</i>	<i>22</i>
c.	<i>DOD Instruction 7000.14-R: Financial Management Regulation, Volume 3, Ch. 17: Accounting Requirements for Military Construction Projects</i>	<i>22</i>
d.	<i>DOD Directive 4270.5: Military Construction.....</i>	<i>23</i>
e.	<i>NAVSO P-1000: Financial Management Policy Manual, Section 075380, Military Construction</i>	<i>23</i>
f.	<i>NAVSO P-1570: Military Construction Financial Management Handbook</i>	<i>24</i>
g.	<i>OPNAVINST 11010.20H: Navy Facilities Projects</i>	<i>25</i>
h.	<i>NAVFAC INSTRUCTION 7820.1J: Recovering Supervision, Inspection, and Overhead (SIOH) Services at Engineering Field Divisions/ Activities (EFD/EFA) and their Subordinate Organizations.....</i>	<i>26</i>
III.	ARMY CORPS OF ENGINEERS IMPLEMENTATION OF SUPERVISION AND ADMINISTRATION ACCOUNTS.....	27

A.	USACE OVERVIEW	27
B.	USACE FINANCIAL MANAGEMENT	30
C.	SUPERVISION AND ADMINISTRATION	34
1.	General Discussion of S&A	34
2.	S&A Financial Management.....	37
3.	Documentation Controlling S&A	40
a.	<i>Department of the Army ER 415-1-16, 30 SEP 93:</i> <i>Fiscal Management.....</i>	40
b.	<i>Department of the Army ER 37-1-30: Financial</i> <i>Administration, Accounting and Reporting.....</i>	45
IV.	COMPARATIVE ANALYSIS OF ARMY AND NAVAL IMPLEMENTATIONS, CONCLUSIONS, AND RECOMMENDATIONS.....	49
A.	COMPARISON BETWEEN NAVFAC AND USACE IMPLEMENTATION OF SIOH.....	49
1.	Comparison of Literature	49
2.	Comparison of Structure.....	50
3.	Comparison of Management.....	51
B.	CONCLUSIONS	52
1.	Significant Differences.....	52
2.	Impact on Audit Readiness	54
3.	Alternatives Examined: Mission Funding of SIOH Personnel and Expenses	55
C.	RECOMMENDATIONS.....	55
	LIST OF REFERENCES	57
	INITIAL DISTRIBUTION LIST	59

LIST OF FIGURES

Figure 1.	Relationship between NAVFAC and Supported Commands	7
Figure 2.	NAVFAC Tiered Structure	8
Figure 3.	NAVFAC Matrix Organization and Relationship	9
Figure 4.	Matrix Roles and Responsibilities	10
Figure 5.	Financial Management Headquarters Organization Chart.....	12
Figure 6.	Echelon II Organizational Chart	13
Figure 7.	Typical Echelon IV Organization Chart	14
Figure 8.	Contract Administration Roles and Responsibilities.	15
Figure 9.	Flow of SIOH Funds	20
Figure 10.	U.S. Army Organizational Chart Highlighting the Relationships with USACE	28
Figure 11.	USACE Worldwide Activities	30
Figure 12.	USACE Financial Management Flow of Funds Overview.....	32
Figure 13.	Funding and Manning Distribution for USACE	33
Figure 14.	Headquarters Level Resource Management Organization Chart.....	34
Figure 15.	Flow of S&A Funds	39

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LIST OF TABLES

Table 1.	Activities Associated with SIOH	15
Table 2.	Select NAVFAC SIOH Rates	18
Table 3.	Summary of Applicable Documents Governing SIOH	21
Table 4.	General S&A Activity Categories	35
Table 5.	List of References Applicable to S&A	40
Table 6.	USACE Flat Rate Account Structure.....	42
Table 7.	RF S&A Account Structure	47

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LIST OF ACRONYMS AND ABBREVIATIONS

AT/FP	Anti-Terrorism/Force Protection
BL	Business Line
BMS	Business Management System
BRAC	Base Realignment and Closure
CERM	Headquarters, Directorate of Resource Management
CFO	Chief Financial Officer
CNIC	Chief of Naval Installations Command
CO	Commanding Officer
CONUS	Continental United States
CW	Civil Works
DERP	Defense Environmental Restoration Program
DFAS	Defense Finance and Accounting Service
DOD	Department of Defense
DOH	Departmental Overhead
EFA	Engineering Field Activity
EFD	Engineering Field Division
EXWC	Engineering and Expeditionary Warfare Center
FASAB	Federal Accounting Standard Advisory Board
FEAD	Facility Engineering and Acquisition Division
FEC	Facilities Engineering Command
FEMA	Federal Emergency Management Agency
FMB	Office of Financial Management and Budget
FMR	Financial Management Regulation
FPIF	Fixed Price Incentive, Firm target contract
G&A	General and Administrative
HQUSACE	Headquarters, USACE
MCCICOM	Marine Corps Installation Command
MILCON	Military Construction
MWR	Morale Welfare and Recreation
MSC	Major Subordinate Commands

NAF	Non-Appropriated Funds
NAVFAC	Naval Facilities Command
NECC	Naval Expeditionary Command
NWCF	Navy Working Capital Fund
OCO	Overseas Contingency Operations
OCONUS	Outside Continental United States
O&MN	Operations and Maintenance
PWD	Public Works Department
PM	Project Manager
PMP	Project Management Plan
QA	Quality Assurance
RE	Regional Engineer
RF	Revolving Fund
S&A	Supervision and Inspection
SFO	Support for Others
SIOH	Supervision, Inspection and Overhead
SL	Support Line
SME	Subject Matter Expert
UFC	USACE Finance Center
USACE	United States Army Corps of Engineers
USD(AT&L)	Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(Comptroller)	Under Secretary of Defense (Comptroller)
WIP	Work in Place

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I. INTRODUCTION

A. OVERVIEW

Supervision, Inspection and Overhead (SIOH) is the surcharge added to every military construction project, facility support contract, and real estate acquisition contract that is managed or implemented by Naval Facilities Command (NAVFAC) (H. Pablo, personal communication, 2015; Under Secretary of Defense [USD] [Comptroller], 2011). This surcharge covers the costs associated with providing contracting officers, engineers and technicians to oversee the administration and implementation of contracted construction work and to cover the overhead associated with field, branch, regional and headquarters office operating expenses. This surcharge is assessed according to a flat rate schedule across the Navy in addition to the estimated contract costs as part of the total funded project costs for all Military Construction (MILCON) funded projects (H. Pablo, personal communication, 2015). For the purposes of this project, only the application of SIOH to MILCON activities are examined.

The United States Army Corps of Engineers (USACE) has a similar system called Supervision and Administration (S&A). S&A is administered in much the same way as SIOH and, from an outsider's perspective, differs mostly in the name and in the categories of expenses that are charged to include construction management, project management during construction, construction contract administration and construction quality assurance (QA). Like SIOH, it is charged according to a flat rate schedule across USACE's enterprise for military construction dependent on appropriation type and whether the costs are incurred via contiguous United States (CONUS) or outside continental United States (OCONUS). However, there are significant differences between NAVFAC and USACE that force differences in the internal controls and implementation of S&A compared to SIOH. These differences are explored in depth in Chapters III and IV.

SIOH and S&A are specifically mandated under section 2802 of Title 10, United States Code, the annual Military Construction (MILCON) appropriation act, and the Department of Defense (DOD) Financial Management Regulation (FMR), DOD

Regulation 7000.14-R. These titles and regulations require that SIOH and S&A costs for MILCON projects be funded from their applicable military construction appropriations.

With passage of a series of laws beginning with the Chief Financial Officer (CFO) Act of 1990, it became mandatory for executive agencies to meet government audit standards. To this day, the Department of Defense has not met this requirement. For audit purposes, the DOD is broken down into several reporting entities, including each of the services. The services are, in turn, broken down into smaller sub-units.

USACE has received unmodified audit opinions on its accounting for civilian infrastructure records (D.E. Keenan, personal communication, October 21, 2015). However, because the Army has not received an unmodified opinion overall, USACE has not received an unmodified opinion for their military construction financial reports. Because USACE has the unmodified opinion of its civil works records, it contends that their military construction financial management practices would also receive an unmodified opinion (D.E. Keenan, personal communication, October 21, 2015).

The tasking for this report seems to indicate that the belief that USACE would receive an unmodified opinion of its military construction financial management if it were audited separately appears to be shared by the Navy's Office of Financial Management and Budget (FMB) (G. Evans, personal communication, January 30, 2015). As a result, FMB is interested in determining if any differences exist between how NAVFAC manages SIOH and how USACE manages S&A due to audit concerns.

B. RESEARCH QUESTIONS

The primary research questions are as follows:

- How does the USACE management of S&A differ from NAVFAC's management of SIOH?
- Do those differences suggest beneficial changes for the Navy?
- What are the detailed procedures for identifying, collecting, managing, and accounting for SIOH (S&A) funds at NAVFAC (USACE)?

C. BENEFITS OF THE STUDY

There may be differences between how USACE implements S&A and how NAVFAC implements SIOH. This study sought to discover whether differences exist and to determine the effects of these differences, if any. Finally, this study sought to make recommendations for improvements in NAVFAC's financial management of SIOH if appropriate.

In order to determine if differences exist, the authors performed a point-by-point comparison between the respective financial management guidance for NAVFAC and USACE. This comparative analysis provides much needed clarity to entities outside of NAVFAC's Comptroller's Office as to how SIOH is accrued, managed, and distributed and how it compares with S&A. This report also explores differences between NAVFAC and USACE and how those differences affect their respective structural makeups and how these entities manage SIOH and S&A, respectively. Finally, it makes recommendations for potential changes based on perceived advantages of one organization over the other. However, any such recommendations must be tempered by an understanding of organizational change theory and how organizations may resist changes due to issues such as change inertia.

Alternatives to funding SIOH from a flat rate assessed on top of construction project estimates were examined. An alternative accounting or funding stream may provide savings and additional granularity above that seen with the current systems. However, there are potential barriers to such a shift, including federal law and DOD regulations. These barriers are addressed in conjunction with the analysis of alternatives.

D. SCOPE

This report describes the implementation of Supervision, Inspection and Overhead (SIOH) and S&A costs associated with Military Construction (MILCON) and Major Maintenance projects by the Naval Facilities Engineering Command (NAVFAC) and by the Army Corps of Engineers (USACE). It examines the individual methodologies of each respective entity and compares NAVFAC and USACE SIOH systems with particular attention to practices that could affect the ability to receive a favorable opinion

on an independent audit. This analysis identifies whether USACE practices should be incorporated into the NAVFAC program.

This project did not conduct any audits of any financial accounts, nor did it inspect financial data. The analysis was focused on NAVFAC and USACE policies and business and management practice, as related to their respective funds and MILCON flow for supervision, inspection and overhead of MILCON projects.

E. CASE STUDY ANALYSIS AND METHODOLOGY

This report examines and compares the methods of SIOH implementation and management at NAVFAC and USACE and document those differences we find. We will then seek improvement where those differences suggest an improvement can be made.

We contacted representatives of NAVFAC and USACE to obtain instructions on how the respective entities implement SIOH and S&A, respectively. We also interviewed subject matter experts (SMEs) to ascertain specific information on how the programs operate on a day to day basis as well as program histories.

We compared the data obtained from the respective agencies to determine differences in process, procedure and management practices. The standard for accounting for the U.S. government is the Federal Accounting Standards Advisory Board (FASAB) handbook. We used this document as a basis of comparison for accounting purposes. Management of the accounts was assessed solely based on empirical comparison of the practices of the two agencies. The empirical evidence was based on the interviews with representatives from the respective entities.

F. ACQUISITION AND CONSTRUCTION

One of the most visible activities of NAVFAC and USACE is facilities acquisition and construction for the military services. Acquisition is the general act of contracting to acquire goods and services on behalf of the government. It is a necessary part of the construction activity and a means to an end. Construction is a general activity that describes the physical effort to maintain, alter or build a portion of infrastructure or free-standing structure. For example, construction might describe work on roads, piers,

buildings, ammunition bunkers, pipelines, utility distribution networks, etc. (Naval Facilities Engineering Command [NAVFAC], 2008)

Construction can be performed by one of two activities: either internally by the public works workforce or externally through a contractor. If performed by an external agency, it falls within the realm of acquisition. The acquisition authority—that is, the one who writes the contract—depends on the dollar value associated with the project and which agency is managing it. For example, under a certain threshold for naval facilities, the contracts are managed by Naval Supply detachments on behalf of NAVFAC. Over that threshold, acquisitions are managed by NAVFAC contracting offices themselves (the FEAD) (NAVFAC, 2015). For the Army, USACE manages all facility acquisition and construction contracts but not the public works functions (H. Pablo, personal communication, 2015).

To complicate categorizing construction further, the source of funds and scope of construction also play a role. Modernization of existing structures that does not change the function or footprint of the facility is considered maintenance and must be funded from Operations and Maintenance, Navy (O&MN) or from the Navy Working Capital Fund (NWCF), depending on who owns the facility. Modernization or repair of O&MN funded facilities (those under the direct control of the installation commanding officer) less than \$1,000,000 may be funded with O&MN funds. MILCON authority and funding must be sought for projects that cost more than \$1,000,000 (there are some exceptions, but this is a good general rule) (NAVFAC, 2011; H. Pablo, personal communication, 2015). There is no restriction for NWCF facilities because they have a separate capital investment program budgeting process (NAVFAC, 2011). For the Army, USACE manages all externally executed construction contracts including those for the Army working capital fund, greatly simplifying reporting and financial management. The exact rates and accounting of this are detailed in Chapter III.

Any new facility costing more than the MILCON threshold, any remodeling to change the purpose of an existing facility, or any maintenance activity over the threshold will also require MILCON authority and funding (US Army Corps of Engineers (USACE), 1993; NAVFAC, 2008).

Thus, MILCON, as a classification, is any construction activity over the threshold that

- constructs a new facility;
- changes the purpose of a facility (e.g., changing an industrial facility into a warehouse);
- changes the footprint of a facility (i.e., changes the size of the foundation); or
- effects repairs on a facility not funded from the Naval Working Capital Fund (NAVFAC, 2008).

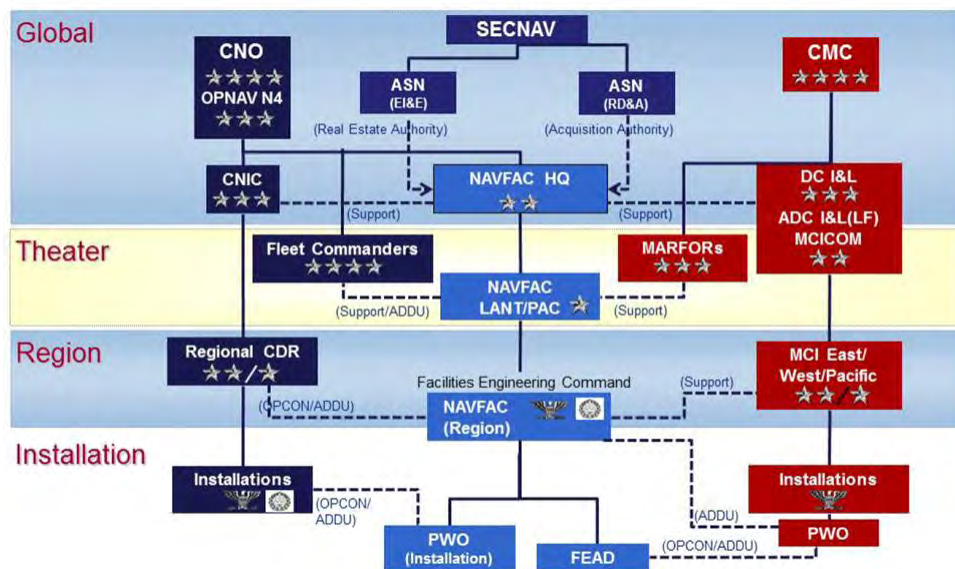
II. NAVAL IMPLEMENTATION OF SUPERVISION, INSPECTION AND OVERHEAD ACCOUNTS

A. NAVFAC OVERVIEW

Any discussion of how NAVFAC controls and implements SIOH requires an understanding of how NAVFAC operates from a macroscopic level through construction and MILCON, and general financial management structure.

Naval Facilities Engineering Command (NAVFAC) is the Navy's service provider for utilities, vehicle leases and maintenance, as well as facilities management, construction and maintenance. It supports a wide variety of customers. The primary customers are the Commander, Navy Installations Command (CNIC) and the U.S. Marine Corps Installations Command (MCICOM). NAVFAC also supports the Naval Expeditionary Combat Command (NECC), Fleet Forces, and Defense Logistics Agency-Energy (NAVFAC, 2015).

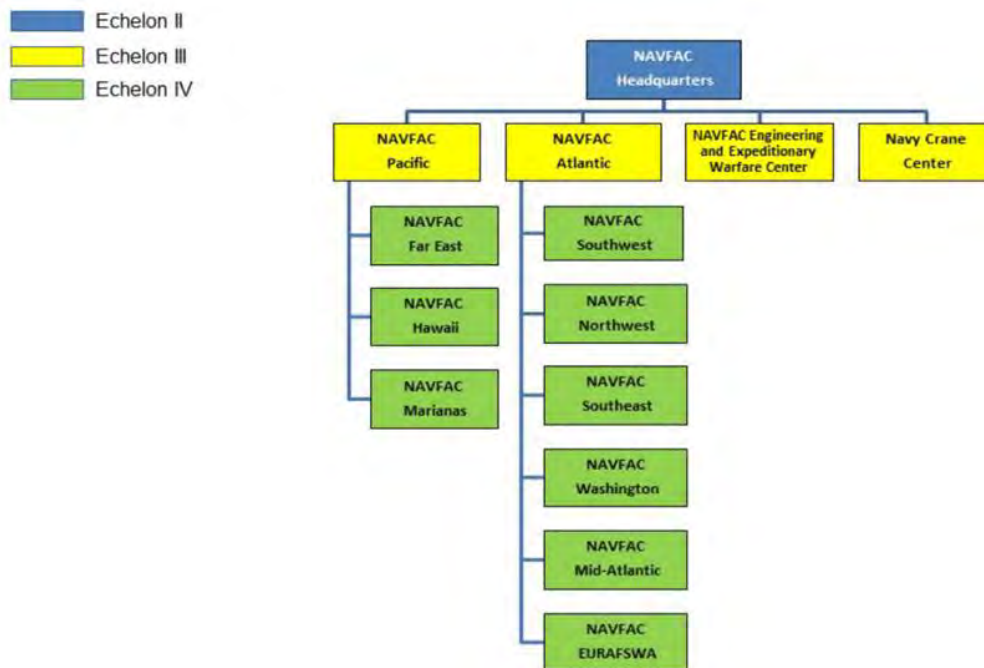
Figure 1. Relationship between NAVFAC and Supported Commands



Source: Naval Facilities Engineering Command (NAVFAC). (2015). *Concept of operations*. Washington, DC: Author. p. 8

NAVFAC is organized both as a tiered organization, and as a matrix organization. Macroscopically, the headquarters element of NAVFAC is an echelon II command. The two subordinate commands, NAVFAC LANT and NAVFAC PAC, as well as the Engineering and Expeditionary Warfare Center (EXWC) and the Navy Crane Center, are Echelon III commands under the headquarters element. NAVFAC LANT and PAC align with, and support, Navy Fleet Forces Command and NAVFAC PAC aligns with and supports Pacific Fleet. The various regional Facilities Engineering Commands (FECs) are subordinate to NAVFAC PAC and NAVFAC LANT. The FEC commanding officers (COs) also act as the regional engineers (REs) to the CNIC regional commanders. The installation Public Works Departments (PWDs) and Facilities Engineering and Acquisition Divisions (FEADs) answer to their regional FECs as subordinate divisions and support their respective installation commanding officers and their tenant commands. The PWDs are also tenant commands on their respective installations (NAVFAC, 2015).

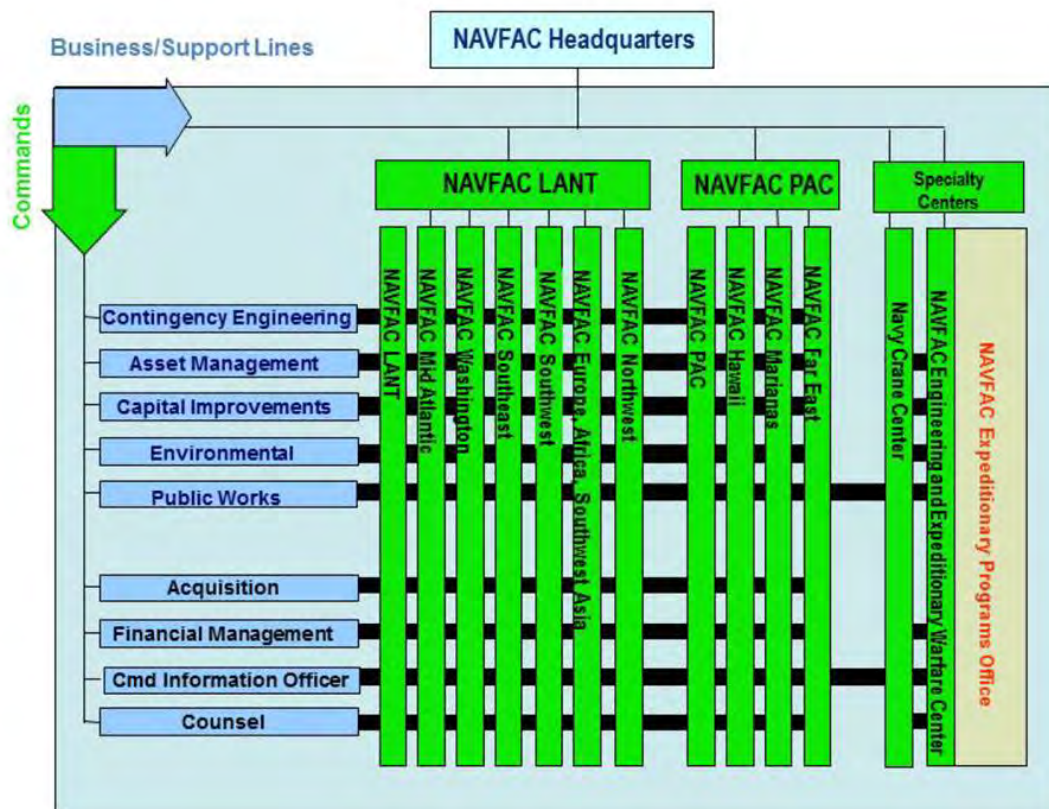
Figure 2. NAVFAC Tiered Structure



Source: Naval Facilities Engineering Command (NAVFAC). (2015). *Concept of operations*. Washington, DC: Author, p. 11.

In the matrix organization of NAVFAC, the vertical lines are the commands at various levels while the horizontal lines are business and support lines that are fully integrated into the structure (Figure 3). Of import is the extent of the integration. Environmental support and business line informs the actions of a public works officer and base CO just as much as it informs decisions made at the flag level.

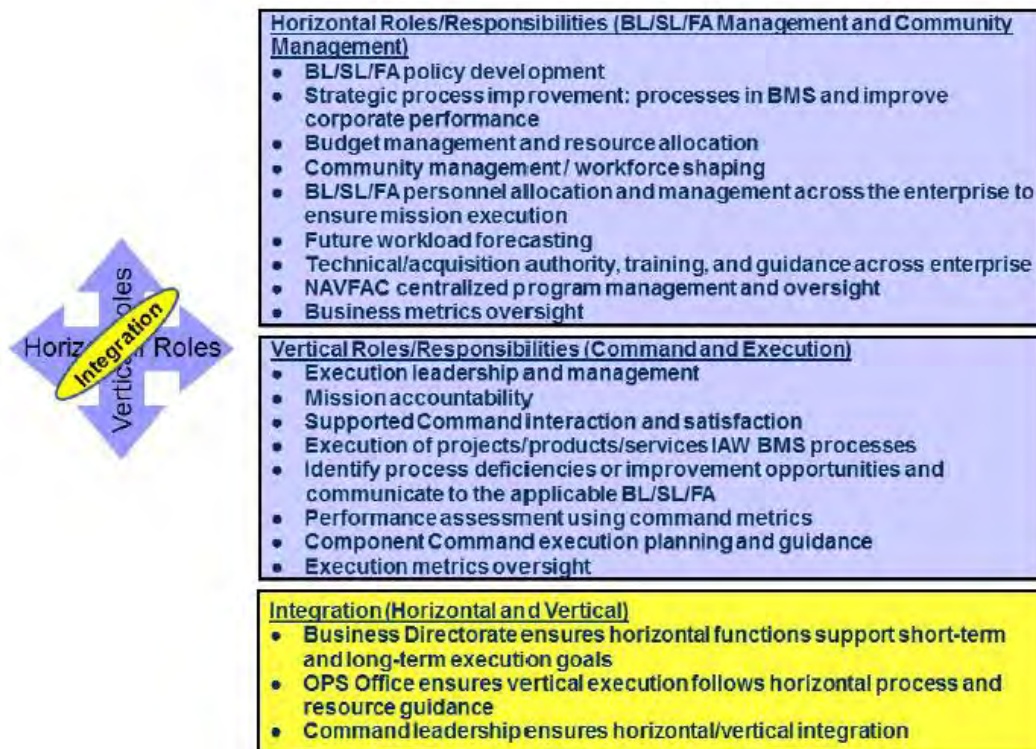
Figure 3. NAVFAC Matrix Organization and Relationship



Source: NAVFAC. (2015). *Concept of operations*. Washington, DC: NAVFAC, Author, p. 12.

Figure 4 further describes the horizontal and vertical matrix functions. There are a number of acronyms in the figure that describe the horizontal and vertical. The business lines (BL), support lines (SL), and Functional Areas are the horizontal portions of the matrix. These lines form the foundation of the organization and allow for the execution of construction and support projects. The Business Management System (BMS) sets constraints and restraints on how the enterprise operates and tracks operations.

Figure 4. Matrix Roles and Responsibilities



Source: NAVFAC. (2015). *Concept of operations*. Washington, DC: Author, p. 13.

NAVFAC provides a wide variety of services. The most visible are building facilities and grounds maintenance, and facilities construction and alteration (NAVFAC, 2015). It also acts as the electric, sewage, water and gas utility provider, waste manager, environmental manager, and hazardous waste manager for most installations. In addition, it provides vehicles for lease or rent, and act as the purchasing agent for special purpose vehicles, provide heavy equipment, and equipment operations including crane and materials handling (forklifts), maintain all government owned vehicles, and provide the fuel cards for all of the vehicles. On installations that require it, NAVFAC field activities will also provide road clearance and prophylactic services such as snow removal and brine spray.

In terms of construction, NAVFAC works with clients to help them develop their requirements and specifications.¹ With the customer's approval to proceed,² and once the requirements for an external entity³ to perform work have been generated, a NAVFAC construction manager may either

- execute a contract for outside design services (i.e. Architect and Engineer services);
- generate detailed designs and specifications in house; or
- executes a contract for construction for design- build or performance-based specifications under the FEAD offices (L. Williams, personal communication, 2015).

The FEAD also provides supervision, and quality assurance of construction sites, design reviews, and contract management services for the clients. The FEAD communicates progress, problems and benefits to clients to help them make key decisions in the course of construction (NAVFAC, 2015). This supervision is paid for by the Supervision, Inspection and Overhead (SIOH) collection account which in turn is funded by the projects (L. Williams, personal communication, October 15, 2015).

B. NAVFAC FINANCIAL MANAGEMENT ORGANIZATION

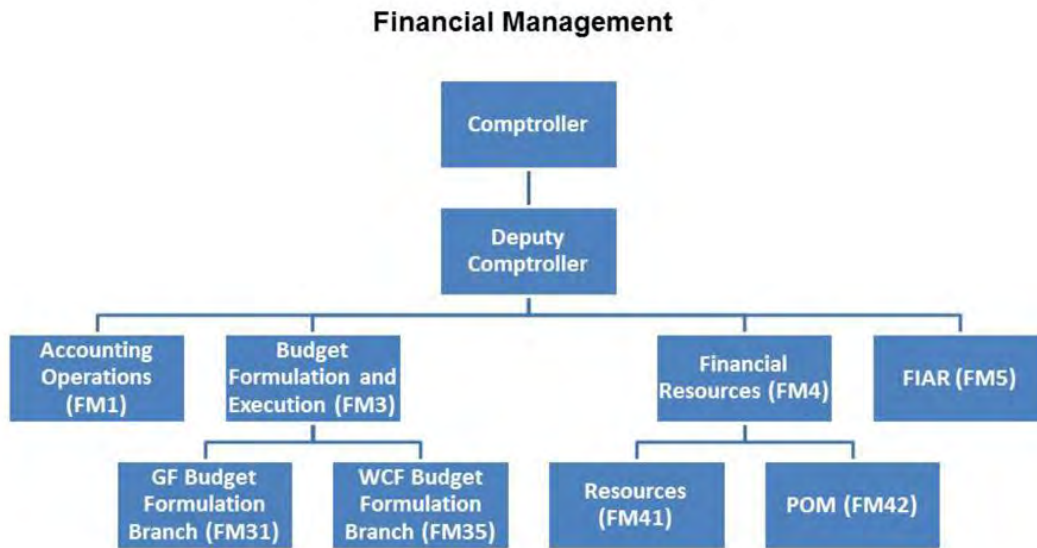
NAVFAC manages financial information and the flow of funds through the Financial Management organization at echelons IV and higher. As can be seen in Figure 3, this support line extends from headquarters through all levels of the NAVFAC enterprise. The general structure of the headquarters FM organization is shown in Figure 5.

¹ The design requirements for a given project are solely the responsibility of the customer. NAVFAC can, and does, act as a project manager or design manager to aid customers in determining their requirements. To prevent fraud, the design manager or project manager must be a different person than the construction manager (USD Comptroller, 2011).

² A customer may choose not to move forward with a project prior to publishing a request for proposal or bid.

³ NAVFAC has the ability to execute limited construction projects using in-house workforce at the Public Works Department level. FEAD engineers may be called upon to aid in the design of work for such projects or to contract with outside Architect and Engineer providers (H. Pablo, personal communication, 2015).

Figure 5. Financial Management Headquarters Organization Chart

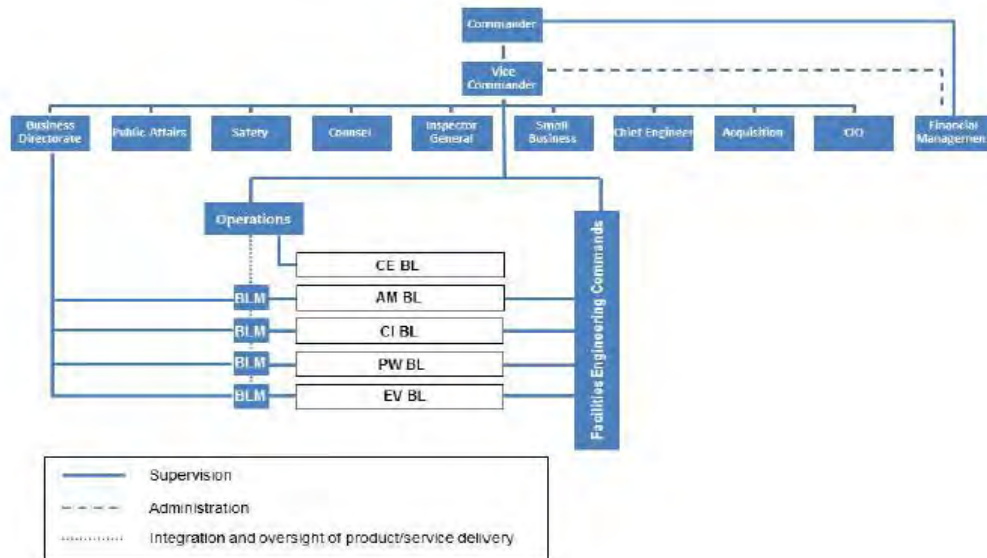


Source: NAVFAC. (2015). *Concept of operations*. Washington, DC: Author, p. 32.

Financial management (FM) at the Echelon III and IV levels is accomplished by independent FM organizations that answer directly to the echelon commanders. Figures 6 and 7 provide sample organizational charts at the regional and FEC levels showing this relationship. This establishes a link from the NAVFAC HQ command all the way down through the echelon IV level that involves not just the Comptrollers and their staffs, but the respective commanders as well and provides a strong relationship with monetary controls at the operational levels (NAVFAC, 2015).

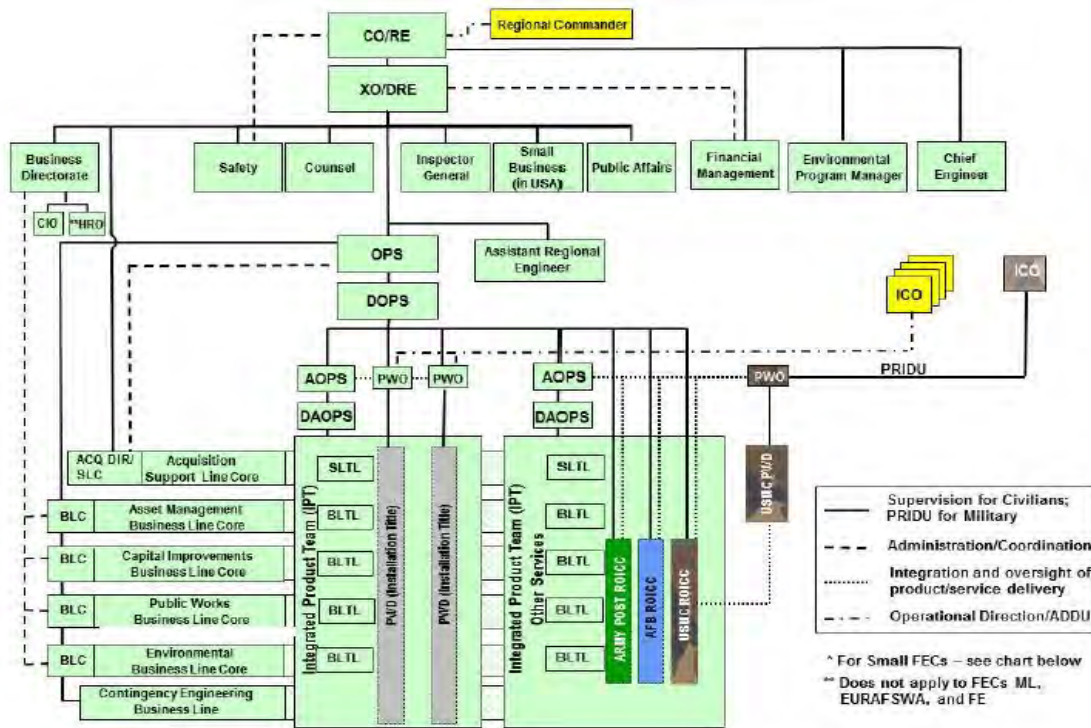
Figure 6. Echelon II Organizational Chart

NAVFAC LANT/PAC ORG CHART



Source: NAVFAC. (2015). *Concept of operations*. Washington, DC: Author, p. 53.

Figure 7. Typical Echelon IV Organization Chart



Source: Naval Facilities Engineering Command (NAVFAC). (2015). *Concept of operations*. Washington, DC: Author, p. 66.

C. SUPERVISION, INSPECTION AND OVERHEAD (SIOH)

1. General Discussion of SIOH

All contracted projects undertaken by NAVFAC incur some costs to administer them. These costs include such things as an Engineer Technician conducting site visits or constructability reviews. There are also costs associated with having an engineer or architect review plans and submittals from contractors and in negotiating change orders (NAVFAC, 2015, p. 91). Additionally, there are costs associated with the contracting officer administering the contract for the client. Figure 8 provides a detailed list of contract oversight roles and responsibilities. Finally, there are overhead costs associated with keeping the field activity office and higher echelon offices open and providing supervision and review functions. Together, these costs consist of Supervision, Inspection, and Overhead (SIOH). A list of all SIOH activities is presented in Table 1.

Figure 8. Contract Administration Roles and Responsibilities.

1102 – PCO/CS	1102-SBP	1102 – ACO/CS	8XX – CM/ENG	802 – ET/QA	3XX/1106
Procurement	Procurement	Contract Administration	Contract Administration	QA	Admin
Participate in ACQ team to develop ACQ strategy Provide acquisition plan Issue pre-award synopsis Prepare SSP Prepare award fee plan Prepare Small Business record Obtain wage determinations Prepare/issue solicitation Obtain appropriate funds Answer pre-proposal questions Conduct pre-prop conf Evaluate bids/proposals Request audits Conduct negotiations Responsibility determinations Prepare pre/post BCM Award contract / TO Debrief contractors Process protest/disputes Prepare contract files Prepare D&Fs, J&As	Procurement: Advise and assist ACQ team in the development of plans and strategies; during market research actions; and in reviewing small business (SB) subcontracting plans to ensure maximum SB participation. Review & coordinate with SBA on all actions over \$10K. Evaluate SB source selection factor in proposals. Contract Administration: Assist KO's in the SB Subcontracting Plan administration, compliance, and performance. Assist SB firms in obtaining payments under contracts. Other: Assist SBA IAW sections 8, 15, and 31 of the Small Business Act. Aid, counsel, and assist SB firms. Provide internal/external SB program training. Maintain an Outreach program to locate and develop information on the technical competence of SBs. Recommend and report on activity/subordinate command SB program goals.	Issue mod RFP/obtain appropriate funding Process PNMs/BCMs Negotiate mods/REAs (>\$100K or out-of-scope) Issue sup agreements/mods/unilateral changes Define/change orders Labor enforcement Process invoices Process claims/termination actions Participate in proj mtgs (PAKs, design reviews, partnering, precons) Close out contracts/Tos Archive contract files Resolve contractual issues Interpret contract provisions/ ACQ regs Monitor subcontracting plans Review/process bonds & admin submittals Oversight of contract files Process FOIA/congressional requests	Primary POC for KTR & client in resp. change for overall contract perf (sched, cost, safety, WIP reporting, etc.) Review/assist in prep tech reqmts for issuance of new TO's/mods Constructability reviews Review technical proposals (Source select/ TEBs/ value engr) Participate in or lead tech mtgs (PAKs, design review, partnering, precons/prework, weekly QA/production/status, etc.) Review/approve/manage (admin and technical) submittals and RFIs Tech review and input on mods, REAs, deviations, invoices, etc. Ensure/prepare independent GE invoice reviews (pencil draw) Manage/negotiate in-scope mods/ obtain funds (<\$150K) Final Acceptance (incl. specialized systems), close out/turnover & (assist in preparation of 1354s Prepare KTR/AE performance evals	Site visits Constructability reviews Client interface Coord KTR passes/permits QC/safety plan review Safety enforcement Base ops coord (lay down, utility outages, road closures, etc.) Develop & lead for QA plan, monitor/ document field work \$ KTR QC program Environ. Compliance Prep tech solutions to project problems Invoice reviews Labor interviews System and building acceptance Closeout reqmts (as-builts, keys, punchlist, etc.)	Admin • Files • Mail • Supplies • SLDCADA/DTS • Inventory control • Contractor badges • Purchase card • Payroll • Reception/ phones • FOIA support Clerk/Analyst • Direct cite assistance • Metrics/ data calls • SPS/FIS queries • Process invoices • Manage budget • Focal point for eApps • FIS WIP entry

The numbers across the top indicate career field codes where 1102 is a contracting officer, 8xx is a construction manager or engineer, 802 is an engineering technician, and 3xx/1106 is admin support. Source: NAVFAC. (2015). *Concept of operations*. Washington, DC: Author, p. 91.

Table 1. Activities Associated with SIOH

1. studies and analysis of plans and specifications and of conferences of construction design personal to establish construction sequence and review design requirements;
2. participation of construction staffs in pre-award activity to acquaint perspective bidders with nature of work;
3. award and administration of construction contracts;
4. award and administration of contracts which provide for supervision and inspection;
5. establishment of benchmarks and baselines required for layout of construction;
6. review of shop drawings prepared by construction contractors for suitability and fit with construction by other trades and contractors;
7. assuring that construction is performed in compliance with plans and specifications by supervision and inspection of construction work;
8. preparation and modification of all contract documents;
9. estimating quantities, determining periodic payments to contractors, and reviewing and approving and contract payments;
10. construction staffs review and approval of construction schedules and progress charts;
11. preparation of progress and completion reports;
12. NAVFAC Inspector General services related to the military construction program;
13. additional expenses incurred by the Government representing liquidated damages assessed contractors as a credit offset against the contracts; and
14. Project management and administration not otherwise identified herein.

Adapted from: NAVY. (2002). *Financial management policy manual* (NAVSO P-1000). Washington, DC: Author, pp. 3–174, 3–175.

NAVFAC provides these services on behalf of its clients. SIOH costs are not appropriated directly but are funded indirectly from Military Construction (MILCON) for large projects. SIOH may also be funded from Non-Appropriated Funds (NAF) accounts such as Morale, Welfare and Recreation (MWR) or the Navy Working Capital Fund (NWCF) if work is performed on behalf of those organizations (NAVFAC, 2004).

Budget accounts such as MILCON, NAF and NWCF may fund construction projects that are contracted to construction contractors for completion. NAVFAC employs personnel in order to provide adequate contract administration and oversight of these contracts and the customer must pay⁴ allocable overhead associated with these activities. Beginning October 1995, NAVFAC was directed to require reimbursement of costs associated with all construction projects that were contracted to private vendors. This requirement was subsequently revised to allow mission funding of contract support actions for Navy and Marine Corps O&M funded contracts (i.e., those below the \$1,000,000 MILCON threshold) (NAVFAC, 1998). Details on this process are provided in the next section.

The SIOH rates are reviewed annually by a review board. Historically, the SIOH rates are set such that over time the SIOH accounts will have a net zero balance. The rates have not changed over the last several years. This may indicate a well-established, stable rate that is adequately controlled across the enterprise.

SIOH rates are applied as part of the project generation process in the computer program that generates the project requirements document (DD form 1391). The program will not allow completion or submission of the form without the SIOH rate being input into the format. The SIOH rate is reviewed as part of the submission process to ensure the appropriate rate is applied. Because the form includes the overhead charge as a cost included in the total estimated cost, the appropriated amount always includes SIOH funding.

⁴ SIOH may be waived under special circumstances by the commanding officer of NAVFAC (H. Pablo, personal communication, 2015).

The enterprise financial management software is programmed to account for SIOH separately from project funding. As a result, the amount of SIOH funds available will always be proportional to project funds available and equal to the SIOH rate times the project funds available.

Once an invoice is paid, project funds are expended against the invoice and an amount equal to the invoice times the SIOH rate is simultaneously transferred from the project account to the Treasury. This transfer is triggered either manually or automatically by the financial management system when progress payments are cleared at the end of the month (L. Williams, personal communication, October 15, 2015).

Finally, as SIOH funded employees log hours, their hours are input into the personnel system coded against the SIOH accounts. This is verified by supervisory personnel to assure the correct personnel log the correct hours. This then is charged against the SIOH accumulation account at the end of the month.

2. SIOH Financial Management

NAVFAC's policy is to support construction efforts through a variety of services. Most contracts fall below the MILCON threshold. As a result, the construction support for these contracts is paid through the supported command's mission funding if the work was planned or is directly reimbursable from mission funds if the work was unplanned. Construction Contracts for Navy or any other Department of Defense (DOD) agency above the MILCON threshold and funded by a MILCON appropriation are assessed a flat-rate SIOH fee of 5.7% in the Continental United States (CONUS) or 6.2% outside of CONUS (OCONUS) (NAVFAC, 2015). Other flat rates are show in Table 2. When the project cost is estimated, a surcharge equal to the appropriate SIOH rate times the total estimated contract cost is added to the appropriations request. Thus, when congress reviews and approves the Military Construction appropriation, it includes the full cost of any given project, including costs that must be reimbursed to the contracting agencies for initiating and managing the contracts. The appropriation for a given project includes this budget authority, and the budget authority (funds) for Supervision, Inspection and

Overhead is held separately from the funds available for payment to the contractor (D. Daniels, personal communication, August 27, 2015; NAVY, 1967).

Table 2. Select NAVFAC SIOH Rates

Funding Source	CONUS Rate	OCONUS Rate
O&M for Navy or USMC	Mission Funded or Direct Reimbursement	Mission Funded or Direct Reimbursement
MILCON	5.7%	6.2%
FSC MILCON	4%	4%
USN BRAC	3% for Safety, other services directly reimbursable	3% for Safety, other services directly reimbursable
Other Service BRAC	8%	8%
Facilities Support Service Contracts, All Services	4%	4%

Adapted from: NAVFAC. (2015). Funding the acquisition execution support provided by Naval Facilities Engineering Command (NAVFAC) facilitates related services contracts and contract actions through mission funds, supervision, inspection and overhead (SIOH)(NAVFACINST 7820.1L). Washington, DC: Author.

As work is performed, the construction contractor will invoice for verified completed items of work as Work in Place (WIP). WIP is a dollar amount of invoiced work which acts as a proxy for measuring the total work completed. It can also be presented as a percentage calculated by dividing the dollars expended by the total estimated project cost (NAVY, 1967). As work is invoiced, the NAVFAC financial system calculates a surcharge equal to the appropriate SIOH rate times the invoice amount. This surcharge is then deducted from the SIOH holding account and transferred back to the treasury into the SIOH accumulation fund. Work completed and invoiced by the contractor in relation to the full price of the contract is assumed to be proportional to work completed by SIOH funded support personnel (D. Daniels, personal communication, August 27, 2015). Thus, SIOH is accumulated from project funds at a rate that roughly approximates government effort and the corresponding SIOH expenditure up to that point. All construction projects are contracted either as Firm Fixed Price or as Fixed Price Incentive Firm Target (FPIF) type contracts, so the SIOH is fully

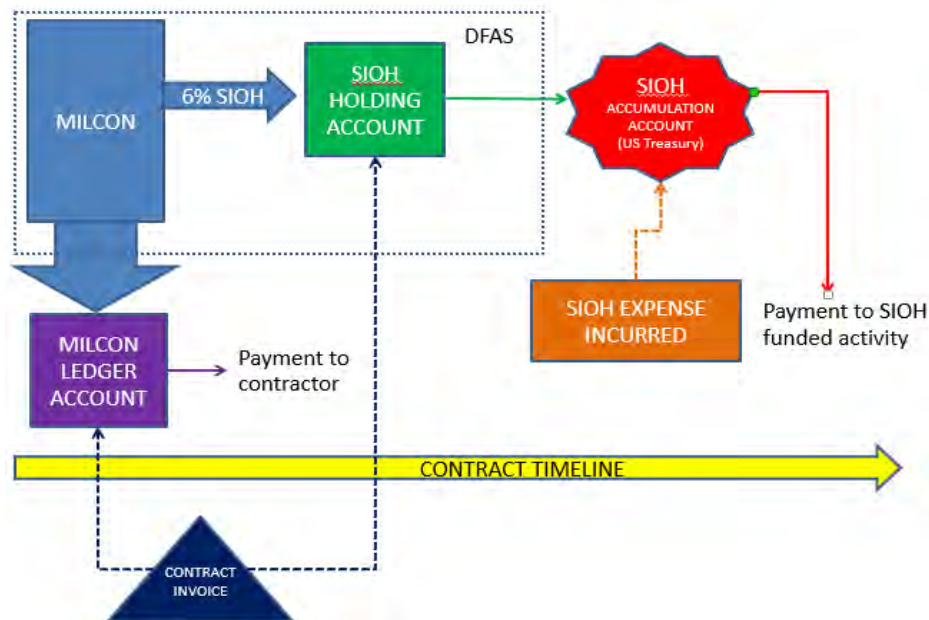
funded from the inception of a given project. Change Orders are also fully funded for SIOH (NAVFAC, 2004; NAVFAC, 2015).

The work involved in administering a contract is largely dependent on the quality and experience of the contractor, the complexity and duration of the work, and on how well thought out the plans and specifications are in the solicitation (H. Pablo, personal communication, 2015). A contractor who is new to working with NAVFAC or one that has questionable practices may require more supervision than one that has been doing work with the military for a while and knows which practices are acceptable and which are not. Similarly, a more complex project (such as one requiring tight coordination with government workers or the host installation) or one that will carry on for an extended period may also necessitate oversight that is more extensive. In addition, a poorly or loosely defined scope of work or omissions in a specification or plan drawing will likely necessitate multiple interventions by project supervision staff and may lead to time intensive change orders. However, an exceptional contractor may not require as much supervision regardless of the design (H. Pablo, personal communication, 2015). This work on the part of the government will increase SIOH expense in these circumstances. Additionally, there is some amount of work that is more or less constant between contracts, regardless of size or the experience of the contractors such as evaluation of proposals, awarding of contracts, pre-construction conferences, and regular supervision and inspection of construction sites. (D. Daniels, personal communication, August 27 2015; NAVFAC, 2004)

As a result, larger contracts will tend to incur a smaller obligation to SIOH as a percentage of funds transferred into the revolving funds from the ledger accounts than smaller projects (the denominator remains constant while the numerator of a smaller project is smaller than that of a larger project) (NAVFAC, 2004). Thus, larger projects will generally augment SIOH expenses from smaller projects. Over time, the SIOH rates have been found to return a net zero change in the SIOH accumulation fund (i.e. SIOH neither makes nor loses money in the long run) (D. Daniels, personal communication, August 27 2015).

Figure 8 provides a graphical representation of the flow of SIOH funds throughout the process. This process begins when funds in the appropriation are set aside to a holding account. When work is invoiced, a proportional amount of obligation authority is transferred from the SIOH holding account to the SIOH accumulation fund at the treasury. This accumulation fund gathers obligation authority (or money) from all ongoing construction projects as they expend funds against their respective contracts. As applicable expenses are occurred, funds are transferred from the SIOH accumulation fund to DFAS to allow them to pay the appropriate bills such as supervisory and inspection personnel or the electricity bill for the construction management office.

Figure 9. Flow of SIOH Funds



Derived from: D. Daniels, personal communication, August 27, 2015; NAVFAC. (2004, December 8). *SIOH (Supervision, inspection and overhead)*. Washington, DC: Author.

The NAVFAC SIOH accumulation account is centrally managed at echelons II and III (i.e., at the headquarters and regional levels) by dedicated account managers. As a result, they are actively managed and monitored to assure the accuracy and efficacy of the information and transactions.

3. Documentation Controlling SIOH

SIOH management is directed and controlled by eight documents. The list of these documents is shown in Table 2.

Table 3. Summary of Applicable Documents Governing SIOH

	REFERENCE	NOTES
1	USC Title 10, Subtitle A, Part IV, Chapter 169, Subchapter I, Sec. 2802: Military Construction Projects	Directs that MILCON projects will include SIOH
2	USC Title 10, Subtitle A, Part IV, Chapter 169, Subchapter III, Sec. 285: 1 Supervision of Military Construction Projects	Directs NAVFAC to execute Military Construction
3	DOD Instruction 7000.14-R: Financial Management Regulation, Volume 3, Ch. 17, Sections 1701–170204	Directs SIOH to be a covered portion of costs and services
4	DOD Directive 4270.5: Military Construction	Directs NAVFAC to be a Military Construction agent and divides responsibilities and geographical areas.
5	NAVSO P-1000: Financial Management Policy Manual, Section 075380, Military Construction	Provides definitions of SIOH costs; Refers to NAVSO P-1570
6	NAVSO P-1570: <i>Military Construction Financial Management Handbook</i>	Provides detailed guidance on management of ledger accounts and SIOH. Partially superseded by DOD FMR and NAVSO P1000
7	OPNAVINST 11010.20H: Navy Facilities Projects	Directs funding of SIOH from supported projects and gives examples of supplied activities
8	NAVFAC INSTRUCTION 7820.1J: Recovering Supervision, Inspection, and Overhead (SIOH) Services at Engineering Field Divisions/ Activities (EFD/EFA) and their Subordinate Organizations	Provides SIOH reimbursement procedures and reasoning.

Adapted from NAVFAC. (2004, December 8). *SIOH (Supervision, inspection and overhead)*. Washington, DC: Author; Under Secretary of Defense (USD)(AT&L). (2005, February 12). *Military Construction (DODDIR 4270.5)*. Washington, DC: Author.

a. USC Title 10, Subtitle A, Part IV, CH 169, Subchapter I, Section 2802: Military Construction Projects.

Section 2802 provides the Secretary of Defense and the Service Secretaries the authority to construct facilities and procure land provided that the projects are funded by an appropriate Military Construction authorization. The section provides specific

authorities for a range of activities including preparatory work, acquisition or construction, provision of permanently installed equipment and supporting facilities (e.g., utilities), and provision of planning and SIOH. It concludes with directions for budget approval.

b. USC Title 10, Subtitle A, Part IV, CH 169, Subchapter I, Section 2851: Supervision of Military Construction Projects

Section 2851 directs that the Army will use the U.S. Army Corps of Engineers to supervise military construction projects for the Army, and the Navy to use the Naval Facilities Engineering Command to supervise construction projects for the Navy. It also provides a trap door clause allowing the Secretary of Defense to approve management by another department if it is in the best interest of the government. The section details that other DOD agencies may use either management agency as designated by the Secretary of Defense. Section 2851 also provides guidance on provision of publicly accessible information on Military Construction information on an Internet site.

c. DOD Instruction 7000.14-R: Financial Management Regulation, Volume 3, Ch. 17: Accounting Requirements for Military Construction Projects

Chapter 17 provides middle level guidance on management of SIOH accounts. The applicable sections are 1701: General and 1702: Efforts To Be Financed by Military Construction Appropriations.

Section 1701 provides general information on accounting requirements. The overview discusses the Authorization and Appropriation requirements for Military Construction projects. This section also discusses activities to be accomplished and funded under planning and design (Preparatory to project submission) and activities to be funded under performance of construction, including SIOH. The section continues with discussion of requirements for emergency, contingency and environmental response construction and actions. Specifically, this section directs that Supervision, Inspection, and Overhead (SIOH) be included in the cost of the project and funded under the construction appropriation (USD(Comptroller), 2011).

Section 1702 directs that all costs associated with a project must be funded in the appropriation. This requirement to fully fund acquisitions is based on rules imposed on the DOD in the 1950s. The section details specific costs that are funded by the project, including SIOH and also lists those costs not funded by the appropriation. Under this section, SIOH is directed to be fully funded from project funds (USD (Comptroller), 2011).

d. DOD Directive 4270.5: Military Construction

DODD 4270.5 is the directive which spells out which agency (NAVFAC, USACE or some other agency) will provide design and construction execution of military construction, minor construction, family housing and reserve component projects both inside the continental United States and overseas for each military component and for DOD agencies. It includes detailed instructions as to which agencies the Air Force shall utilize for construction management depending on region and circumstance as shown in Table 4. It also provides for means by which USACE or NAVFAC may act as the construction and design manager for Non-DOD entities or for Non-Appropriated Fund Instrumentalities (e.g. FEMA or MWR) (USD (AT&L), 2005). It makes no statement about the implementation or appropriation, or management of SIOH. However, in defining which construction agent holds primacy where in the world, this instruction determines who will set the SIOH rates and definitions for that region.

e. NAVSO P-1000: Financial Management Policy Manual, Section 075380, Military Construction

NAVSO P-1000 is a publication of the Office of the Secretary of the Navy, office of Financial Management and Budget. As such, it details much of the mid-level financial management policy for the Navy, but does not go into specific details on most subjects. The applicable section for SIOH is 075380, Military Construction.

Section 075380 provides for the investment funding policy of MILCON projects. As such, it directs which costs are allocable to MILCON funding and which must be funded from other sources. It provides a definition of what construction is and is not and what activities it includes. It spells out what the restrictions are on a construction project. Finally, it defines SIOH as “costs included in the military construction program cover the

costs indicated (in Table 1) which are incurred at Naval Facilities Engineering Command (NAVFAC) Headquarters and each Engineering Field Division (EFD) for administrative services and supplies and on-site services and supplies in connection with supervision and inspection of military construction. Included are costs of civilian personnel, contractual services, supplies, materials, and equipment in the performance of” (those activities listed in Table 1) (NAVY, 2002, p. 3–174). It refers to NAVSO P-1570 for detailed guidance on SIOH management and implementation.

f. NAVSO P-1570: Military Construction Financial Management Handbook

NAVSO P-1570 is a publication of the Comptroller General of the Navy that was last updated in 1967 at the height of the Viet Nam war. Because it is so dated, much of the information it contains has been superseded by, and incorporated into, the Navy and DOD Financial Management Regulations (L. Williams, personal communication, October 15, 2015). The specific sections that have been moved into other regulations are those pertaining to management of Military Construction in general and the contracting accounts. The portions relating to SIOH remain in effect as evidenced by the current NAVSO P-1000 referring to this document (NAVY, 2002).

The NAVSO P-1570 provides still accurate descriptions and instructions for management of ledger accounts and SIOH. With respect to SIOH, this is the source document describing the SIOH process spelled out in section 2 of this chapter. This instruction directs that as WIP is invoiced, a proportional amount of funding is transferred from the holding account to the accumulation account. At this point, the instruction becomes dated, as the exact procedures require manual movement of funds using numerous forms and paper ledgers (NAVY, 1967). This process has now been superseded by NAVFAC’s financial management information technology system, which instantaneously transfers these funds when invoices are reconciled at the end of the month. However, despite the added automation, the trigger to transfer funds remains the receipt and monthly reconciliation of project invoices against the current estimated total project cost (L. Williams, personal communication, October 15, 2015).

g. OPNAVINST 11010.20H: Navy Facilities Projects

This is a Chief of Naval Operations instruction governing construction at Naval Shore Installations from an operator and base management point of view. As such, it does not go into detail with financial management aspects of construction projects, but instead focusses on the administrative aspects of project preparation, governance, approval, and reporting. The instruction has 10 chapters plus appendices covering

1. general information
2. governing laws and prohibitions
3. classification of work
4. types of funding
5. special projects
6. MILCON projects
7. project completion
8. special considerations
9. non-appropriated fund, commissary surcharge, and privately funded projects; and
10. navy working capital funded projects (CNO, 2014, pp. i-v)

Chapter 1, “General Information,” provides the basic information needed to determine what other portions of the reference to use. Specifically, the classification of work and limits of authority are key to determining which types of funding are needed and what chapters to utilize. This is the key reference utilized by NAVFAC in determining what types of funds may be used to upgrade a building and who has the authority to expend those funds. The definition of SIOH on page 1–7 is the only mention of Supervision, Inspection and Overhead in the entire instruction. It directs the application of SIOH to all NAVFAC activities and provides an abbreviated list of those points of work that may be attributed to SIOH. However, this instruction does not provide any guidance on the financial management of funds associated with SIOH.

Chapter 2 is an overview of applicable laws and regulations governing construction and contracting, such as the Anti-Deficiency Act. It also provides an overview of prohibited actions and a legal view of mixing funding.

The remainder of the instruction provides a detailed examination of topics from chapter 1. Chapter 3 further examines classifications of work and how to determine which classification applies. Chapter 4 provides specific funding codes for construction and how those funding sources work. Chapters 5 and 6 cover Special Projects and MILCON projects in depth. Chapter 7 discusses what to do upon project completion, such as final inspection and acceptance, transfer of ownership, and recording of the facility. Chapter 8 covers the topics that aren't covered anywhere else such as environmental topics, archeological sites and Anti-Terrorism/ Force Protection (AT/FP) requirements. Finally, Chapters 9 and 10 cover other funding sourced projects such as NAF or commissaries, and Navy Working Capital Funded projects such as the shops buildings or electrical infrastructure (CNO, 2014).

h. NAVFAC INSTRUCTION 7820.1J: Recovering Supervision, Inspection, and Overhead (SIOH) Services at Engineering Field Divisions/ Activities (EFD/EFA) and their Subordinate Organizations

NAVFACINST 7820.1J is the NAVFAC instruction to inform all field activities of the NAVFAC policy to recover SIOH from supported units. This instruction states that only those NAVFAC activities associated with non-mission funded acquisitions and contracted activities carry a SIOH burden. As such, these activities are required to recoup SIOH costs from such non-mission funded activities (O&MN). The instruction provides definitions of and examples of applicable activities (NAVFAC, 1998).

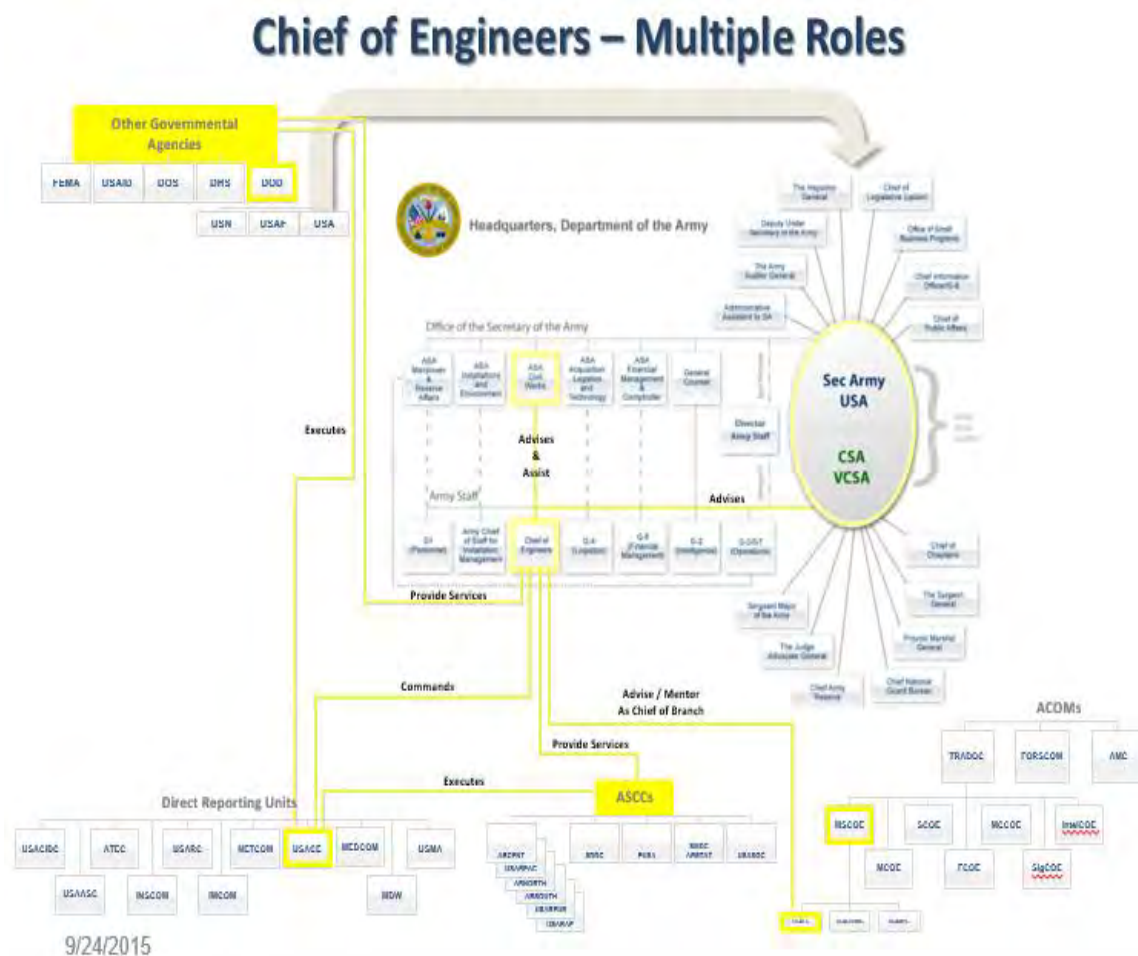
III. ARMY CORPS OF ENGINEERS IMPLEMENTATION OF SUPERVISION AND ADMINISTRATION ACCOUNTS

A. USACE OVERVIEW

USACE is the construction management agency for the U.S. army and for continental civilian public works projects for the federal government outside of DOD and as requested by state and local government agencies. USACE does not offer base or facility management or in-house maintenance services. USACE is charged with maintenance of and construction on the Nation's inland waterways. Like NAVFAC, USACE provides environmental and contingency construction services. Because USACE does not provide Facilities Management and in-house maintenance services, they utilize only 5% mission funding and are instead 95% funded by S&A reimbursement (D.E. Keenan, personal communication, September 22, 2015). This makes them almost entirely dependent on S&A as a funding stream (D.E. Keenan, personal communication, October 21, 2015).

Within the Army, USACE is considered a Major command and is led at the 3-star (Lieutenant General) level as compared to NAVFAC which is led at the 2-star (Rear Admiral upper half) level. This leadership is reflective of the relative levels of responsibility. Where NAVFAC is responsible for military activities and a limited number of outside engagements, 66% of USACE employees are directly engaged in civil works outside of the military (D.E. Keenan, personal communication, 2015). When the size of the Army as a force is also taken into account, the responsibility level becomes apparent and supports the additional level of leadership. Figure 10 shows the placement and relationship of USACE relative to the overall Army structure.

Figure 10. U.S. Army Organizational Chart Highlighting the Relationships with USACE



Source: D.E. Keenan, personal communication, 2015.

Operationally, USACE is split between civil works projects and military construction. Civilian works constitute the majority of USACE operations and are the most visible to the American public. The civilian program constructs and maintains waterway improvements within the continental United States such as locks, dams and levies. They provide construction services for state and local governments to provide flood protection and waterway improvement as well as any other large project management services that they might request such as bridges or commercial ports. The final, highly visible role of USACE is responding to domestic disasters and supporting

FEMA. Effectively all of the contracts USACE supervises for civil customers are performed at a variable, at-cost basis.

USACE acts as the Army's sole construction manager for military construction on Army installations and as one of three construction managers for the U.S. Air Force—the others are NAVFAC and, where allowed, the Air Force themselves.⁵ Like NAVFAC, USACE oversees family housing, Base Realignment and Closure (BRAC) contracts, Overseas Contingency Operations (OCO) contracts and MILCON contracts. In this function, USACE acts as the representative for the customer command and is funded from the same pot of money that funds the projects.

Organizationally, USACE is headquartered in Washington, DC. It has regional divisions which supervise 44 district offices around the world. These offices supervise activities across the U.S. and in 34 countries in contrast to two regions for NAVFAC. Figure 11 displays how funds are obtained by USACE (represented by the red and white castle).

⁵ Alternate agents are also allowed provided certain criteria are met. The discussion of these criteria is beyond the scope of this report (USD(AT&L), 2005 (H. Pablo, personal communication, 2015))

Figure 11. USACE Worldwide Activities



Source: Source: D.E. Keenan, personal communication, 2015.

B. USACE FINANCIAL MANAGEMENT

Like NAVFAC, USACE is a design and construction agent (H. Pablo, personal communication, 2015). They provide both inherently governmental services, such as contract solicitation and bid evaluation, as well as services available from contracted construction management firms. As a result, their clients are expected to reimburse them for services rendered.

Because nearly all USACE funding is through S&A reimbursement from one customer or another, internal financial management for it is simpler than it is for NAVFAC .

There are two prime sources of funds: the federal government, funded by Congress and managed by the Office of Management and Budget (OMB) and non-federal civil works customers such as state and local governments. These two sources divide into

three general categories of work for USACE: civil works customers, civil works emergency management customers, and DOD customers. DOD customers are further subdivided into Department of Army customers and other military program customers (D.E. Keenan, personal communication, 2015)

Civil works customers provide projects such as levies, dams and locks along waterways or inland transportation infrastructure. These projects are always 100% reimbursable, but the reimbursement agreements are variable based on the services rendered by USACE and customer preference for a flat-rate or direct reimbursement arrangement. Typically, these types of projects directly reimburse all S&A costs instead of opting for a flat-rate agreement. The civil works business line has received an unmodified audit opinion (D.E. Keenan, personal communication, October 21, 2015)

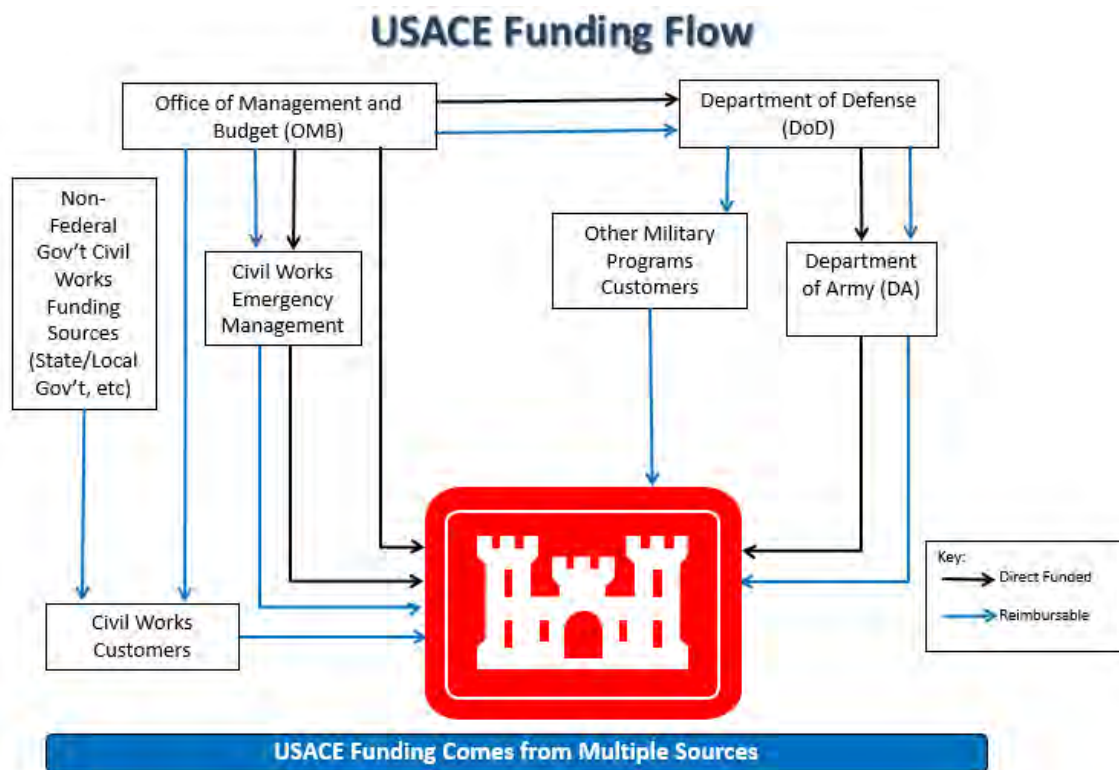
In addition to planned civil works projects, USACE is also a responder to natural disasters and emergencies in the civilian sector. This work may be entirely or partially reimbursible, depending on the funding source. An example of this type of work would be the USACE response to New Orleans in the wake of Hurricane Katrina (D.E. Keenan, personal communication, 2015). Civil works emergency response is considered part of the civil works business line, so it is included in the unmodified audit opinion (D.E. Keenan, personal communication, October 21, 2015)

The DOD business line is also ultimately funded from the OMB. Unlike the civil works business line, military construction is performed almost exclusively on a flat-rate basis⁶ (D.E. Keenan, personal communication, October 21, 2015). While the army portion of military construction has some direct funding component to cover higher echelon headquarters expenses, other military construction program customers are entirely reimbursible (D.E. Keenan, personal communication, 2015). Unlike the civil

⁶ Historically, USACE performed military construction on a directly reimbursable basis. The experience showed that varying labor rates and differences in contractors could result in vastly different levels of effort for supervision and administration of contracts. This resulted in S&A costs being drastically different between different locations despite having identical or nearly identical project specifications and plans. This in turn caused significant tension with military customers who refused to understand that construction would simply have different costs at different bases around the world. As a result, USACE returned to a flat-rate system to effect similar costs at all locations (D.E. Keenan, personal communication, October 21, 2015)

works business line, military construction is part of the U.S. Army as a whole for audit purposes. As the Army has not yet received an unmodified audit opinion, the USACE military construction business line has not received an unmodified opinion. Coloquially, this could be termed as USACE has not yet passed an audit on their military construction activities. However, USACE FM personnel believe that there is no reason that they would not pass an audit of their military construction S&A accounts and activities, given that the S&A financial management and administration is the same between civil works and military construction programs (D.E. Keenan, personal communication, October 21, 2015).

Figure 12. USACE Financial Management Flow of Funds Overview

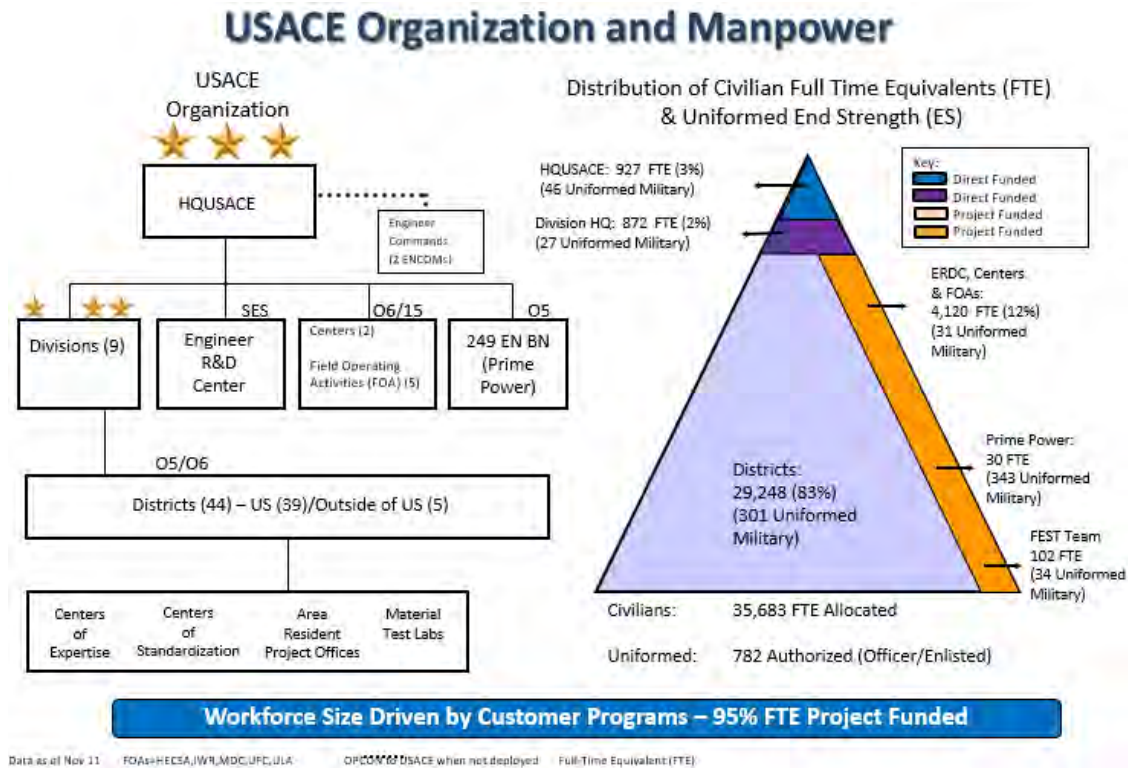


Source: D.E. Keenan, personal communication, 2015.

Note that there is a limited amount of direct funding for USACE (approximately 5%) to cover the costs of top management as shown in the funding breakout in Figure 12. The remaining 95% is funded through S&A reimbursement from projects (Either direct

reimbursement or flat rate) (D.E. Keenan, personal communication, 2015). Figure 12 also displays the multi-echelon nature of the USACE Enterprise.

Figure 13. Funding and Manning Distribution for USACE

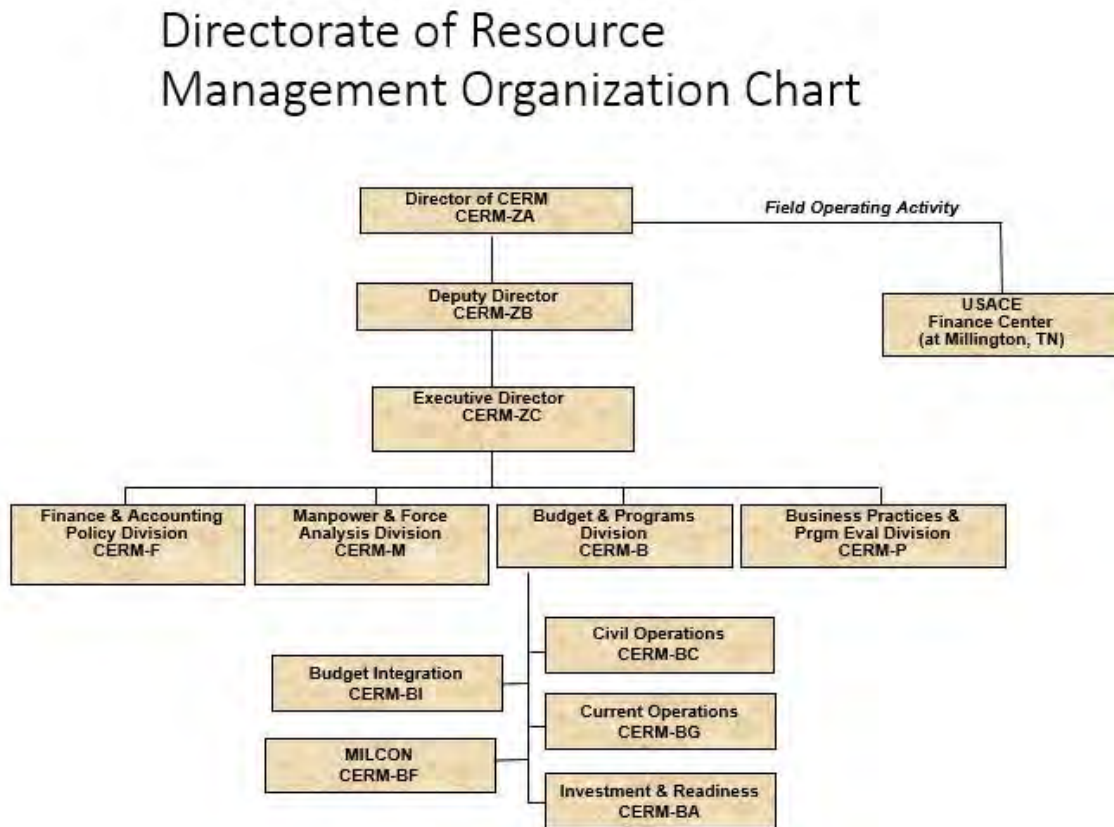


Source: D.E. Keenan, personal communication, 2015

Where NAVFAC SIOH is centrally managed at the regional and headquarters levels, S&A management is more distributed. The general structure is that each field activity has a financial manager responsible for managing S&A expenditures and revenues. This function is echoed at each higher level up to the USACE headquarters in Washington. There is also detailed guidance on financial management available for USACE Financial Managers. The Headquarters, Directorate of Resource Management (CERM) structure is shown in Figure 13. The Resource management Office is responsible for the timely and accurate reporting of financial data, including S&A, in a format usable by Construction Division managers. The Finance and Accounting Policy

Division (CERM-F) is responsible for the handling and accounting procedures associated with S&A. This structure is echoed at the regional level.

Figure 14. Headquarters Level Resource Management Organization Chart



Source: M. Walsh, personal communication, September 23, 2015

C. SUPERVISION AND ADMINISTRATION

1. General Discussion of S&A

Army Corps of Engineer's construction Supervision and Administration (S&A) costs are similar to NAVFAC's Supervision, Inspection, and Overhead (SIOH) costs. In practice, S&A comprises those activities which are related to the construction management of a given government construction project. S&A is handled and charged in a way SIOH is handled and charged.

S&A utilizes a series of chartered revolving funds accounts with subsidiary funds at lower echelon activities that are reconciled into the larger fund on a monthly basis. The series of accounts are comprised of separate accounts earmarked for different types of projects (USACE, 1993). For the purpose of this report, the authors focus on the revolving fund for military construction.

From a financial standpoint, providing contract support and supervision services incurs a cost to the government. This cost is paid out of the S&A revolving fund maintained within the Defense Finance and Accounting Service (DFAS). The revolving fund is then reimbursed from a portion of each project's funds. S&A covers the costs of construction services including project and cost management, contract administration, scheduling, quality assurance, procurement management of materials and claims analyses. The remainder of S&A costs account for predesign, design, and bid-phase services. Table 5 provides a detailed list of categories and specific work items covered under specific S&A activities. Unlike Table 1, the guidance provided by USACE is very detailed as to what constitutes allocable S&A charges. However, the general categories captured in Tables 1 and 4 are quite similar (USACE, 1993).

Table 4. General S&A Activity Categories

<p>1. Pre-award Activities</p> <ul style="list-style-type: none"> a) Conference of construction staffs to establish construction sequence, etc., with design personnel, and for familiarization with design requirements. b) Conducting of site visits for bidders. c) Performance of technical portion of Pre-award Survey.
<p>2. Post-award Activities</p> <ul style="list-style-type: none"> a) Reviews of insurance certification and bonding. b) Preparation of, and execution of Quality Assurance plans c) QA sampling and testing during construction of materials to determine suitability and compliance with prescribed plans. d) Preconstruction conferences. e) Oversight of relocation of residents, temporary or permanent. f) Review, approval and enforcement of contractor submittals required by contractor clauses. g) Review and approval of construction schedules and progress charts prepared by construction contractors.

<ul style="list-style-type: none"> h) Review/Enforcement of contractor laboratory certifications. i) Contract administration is association with modifications to contracts. j) Resolution of contract disputes and claims. k) Management of contract funds, preparation of funds request. l) Management of contract schedules, progress charts/reports. m) Reviewing and processing of periodic progress pay estimates, verification of bid item quantities. n) Processing of routine document transmittals. o) Preparation of Construction Contractor and final Architect-Engineer performance evaluations. p) Supervision and/or QA of systems start-up, maintenance and operations; primarily for environmental restoration projects. q) Obtaining or provision of necessary technical guidance. r) Preparation and review of the daily log of construction, including routine safety inspections and comments. s) Pre-final and final inspections and transfer of facilities to owner, with proper documentation. t) Review of operations and maintenance manuals. u) Photography/ videotapes for progress reports. v) Warranty enforcement. w) QA of site closure and post-construction maintenance. x) Financial close-out of contracts
<p>3. Field Officer Operations</p> <ul style="list-style-type: none"> a) Building maintenance and operations, including rent and utilities. b) Motor Pool/ Vehicles and lease/rental, maintenance and repairs. c) Office equipment and supplies: Expendable items under \$5,000. d) Transportation of things, communications, printing and reproduction, equipment maintenance, and other contractual services.
<p>4. Construction Phase Project Management, Project Manager (PM)</p> <ul style="list-style-type: none"> a) Various activities during the construction phase, but only related to a specific project. Other labor by the PM is charged to other appropriated district accounts.
<p>5. Construction Phase Project Management, By Technical Manager</p> <ul style="list-style-type: none"> a) Coordination of construction projects with the PM and other Corps elements. b) Participation in preparation of the baseline cost estimate and Project Management Plan (PMP), including revisions. c) Periodic progress meetings with the PM. d) Participation in the Project Review Board meetings.
<p>6. Departmental Overhead</p> <ul style="list-style-type: none"> a) These are expenses of the Construction Division that cannot be charged directly to any specific project. These activities and costs are distributed to projects or to the S&A flat rate accounts based on direct labor hours. Departmental overhead (DOH) costs are distributed to each project using direct labor hours as the distribution method, i.e., for each project a percentage is added to the direct labor costs to recover the technical division's costs. This percentage is in addition to Labor Burden. Activities normally charged to DOH:

<ul style="list-style-type: none"> • Time worked on a specific project is less than one hour, or • Individuals are part of the technical division's executive or administrative staff, or • The employee is performing work, not chargeable to a specific project, i.e., <ul style="list-style-type: none"> - Permanent change of station travel - Training and attendance at professional seminars - Expendables and minor equipment under \$5,000 not directly attributable to a project. - Supplies, materials and expendable items for the "department" - Support contracts and Revolving Fund facility account charges
<p>7. General and Administration Overhead</p> <p>a) G&A offices provide support to the technical divisions and perform other required functions not directly chargeable to specific projects. G&A offices are not generally permitted to charge directly to projects or S&A flat rate accounts. These costs are distributed to all technical and construction divisions. Similar to DOH, the construction division distributes these costs to direct labor hours.</p>
<p>8. Labor Burden</p> <p>a) These are expenses for various employee-related costs and contributions for fringe benefits. These expenses increase the labor costs charged to each project.</p> <ul style="list-style-type: none"> • Civil service retirement • Leave • Life insurance • Social Security • Medicare • Job-related injuries • Health benefits

Adapted from: USACE. (2010, September 15). *Financial administration; accounting and reporting (CERM-F, regulation no. 37-I-30)*. Washington, DC, United States: Author.

2. S&A Financial Management

From the macroscopic level, S&A charges are very similar to those charges incurred for SIOH. Unlike the generally stated and broad categories that NAVFAC procedures contain for the allowed allocation of SIOH funds, USACE breaks these activities into the above categories.

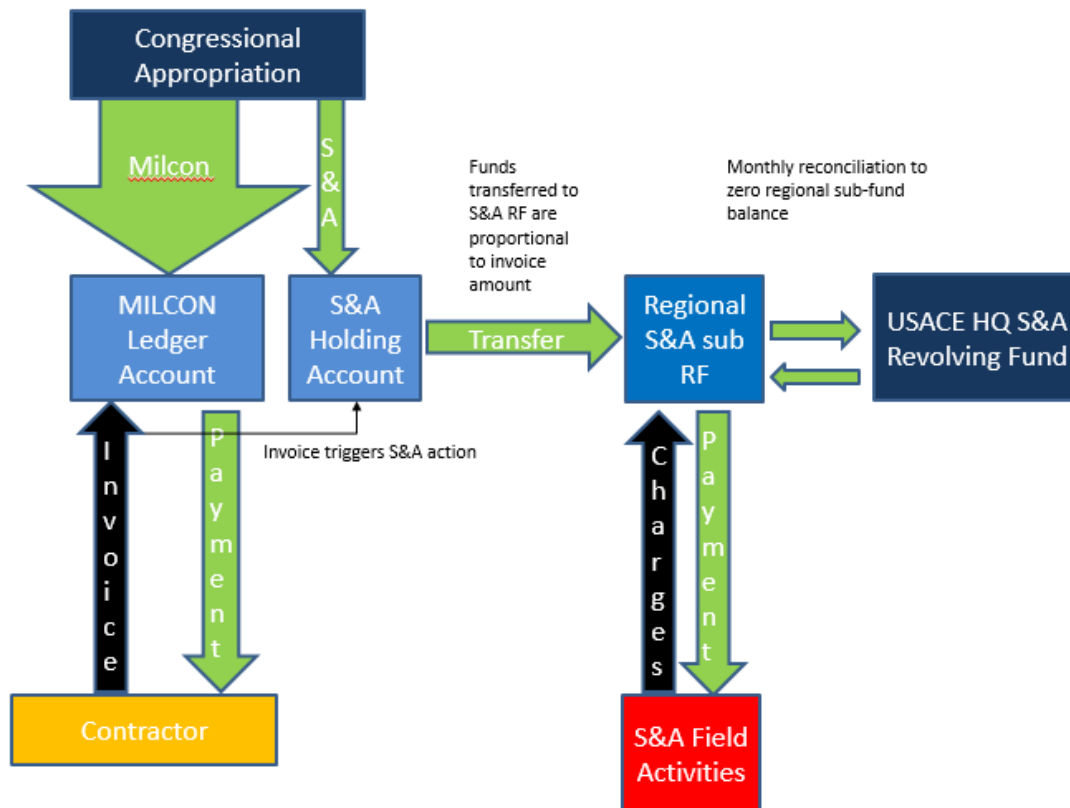
Because USACE does business with non-military government entities within the United States, there is some demand for non-flat-rate overhead determination by some of their clients. For these clients, it is understood that the actual costs will vary based on

location, nature of work and other factors. As a result, the exact rate is negotiated with the customer prior to starting work. However, the majority of military construction projects are charged on a “flat rate” basis. Consequently, this project will focus solely on the “flat rate” method of accounting for S&A construction costs to enable a direct comparison with NAVFAC (D.E. Keenan, personal communication, October 21, 2015).

Both the flat rate and direct reimbursement methods transfer and account for S&A funds in the same way. The only difference between the two methods lies in how S&A funds are accrued. For flat rate, funds are determined as a percentage of expenditures for each project. For direct reimbursement, funds are accrued exactly equal to the costs incurred in the process of supervising and administering contracts (USACE, 1993).

Figure 15 details the flow of funds for USACE S&A. As construction costs are incurred, a flat rate percentage of construction placement is charged to the project. Thus, as a contractor invoices for work in place (WIP), a percentage of that WIP is also deducted from the S&A holding account and transferred into the locally controlled and managed sub-account. These accounts are controlled at the field activity level and are subsidiary to the centrally controlled revolving funds account. As S&A costs, such as labor for field inspections or contract administration, are incurred, these costs are charged to the locally controlled account. On a month to month basis, this account will balance to either a deficit or an excess of funds. At the end of the month, this balance is transferred to/ from the national S&A revolving fund to the local accounts to zero the accounts for the next month. Over time, S&A neither makes, nor loses money. The exact percentage associated with the surcharge varies based on location and whom the work is being performed for in accordance with Table 3. Similar to Navy construction projects, USACE construction projects are typically contracted as some variant of Fixed Price type contracts. As a result, the cost of construction is known, so the percentage cost for S&A is easily calculated and set aside. Thus, the S&A is fully funded from the beginning but allocated to the field as earned through WIP (D.E. Keenan, personal communication, October 21, 2015).

Figure 15. Flow of S&A Funds



Derived from: D.E. Keenan, personal communication, October 21, 2015; USACE. (2010, September 15). *Financial administration; accounting and reporting (CERM-F, regulation no. 37-1-30)*. Washington, DC Author.

USACE S&A accounts are managed by dedicated account managers at all echelons from the field activity to the headquarters level. Local account managers manage the subsidiary local accounts while account managers at higher echelons manage the revolving funds themselves. As a result, these funds are actively managed and supervised to assure the accuracy and efficacy of recorded financial information and transactions. By having multiple layers of oversight and clear, concise standard operating procedures, USACE is able to control for local variances in financial management practices (D.E. Keenan, personal communication, October 21, 2015).

3. Documentation Controlling S&A

The top tier of documentation controlling S&A are identical to that controlling SIOH. The difference lies in the Army-unique documentation. Table 5 provides an overview of those instructions that govern the implementation of S&A for the U.S. Army Corps of Engineers. A full review of the Army specific instructions (the last two in the table) is provided after Table 7.

Table 5. List of References Applicable to S&A

	REFERENCE	NOTES
1	USC Title 10, Subtitle A, Part IV, Chapter 169, Subchapter I, Sec. 2802: Military Construction Projects	Directs that MILCON projects will include S&A
2	USC Title 10, Subtitle A, Part IV, Chapter 169, Subchapter III, Sec. 285: 1 Supervision of Military Construction Projects	Directs USACE to execute Military Construction
3	DOD Instruction 7000.14-R: Financial Management Regulation, Volume 3, CH 17, Sections 1701–170204	Directs S&A to be a covered portion of costs and services
4	DOD Directive 4270.5: Military Construction	Directs USACE to be a Military Construction agent and divides responsibilities and geographical areas.
5	Department of the Army ER 415–1-16, 30 SEP 93, Chapters 1–9: Fiscal Management	Establishes policies and procedures to be used in the financial management S&A (USACE, 1993)
6	Department of the Army ER 37–1-30 Change 4, 28 FEB 07, Chapters 20–22	Provides guidance on overhead and S&A accounting procedures

Adapted from: D.E. Keenan, personal communication, October 21, 2015; USACE. (2010, September 15). *Financial administration; accounting and reporting (CERM-F, regulation no. 37–1-30)*. Washington, DC, United States: Author; USACE. (1993, September 30). *Construction fiscal management (CEMP-CM Regulation No. 415–1-16)*. Washington, DC, USA: Author

a. Department of the Army ER 415–1-16, 30 SEP 93: Fiscal Management.

ER 415–1-16, Chapters 1–9, is the Department of the Army’s primary guidance for the effective management and stewardship of S&A resources. The chapters cover an array of items establishing guidance and procedures for the proper handling and execution of S&A funds and costs. Chapters 20–22 of ER 37–1-30 provide additional guidance and accounting policy for the distribution of departmental overhead and G&A overhead.

(1) Chapter 1: Fiscal Management

This chapter establishes policies and procedures for the financial management of S&A construction accounts at both the district and major subordinate command (MSC) levels. It specifically provides guidance for the preparation and execution of construction related operating budgets.

The Chief of Construction at both the district and MSC level commands are required to prepare an annual operating budget pertaining to related construction activities. The annual budget provides the Chief of Construction the ability to manage their resources and to properly organize and staff their operations. At a minimum, the operating budget should include all construction related costs, funding and income sources, and an estimate of expenses to be incurred during the life of the project. The following items must be taken into consideration when preparing and managing the budget.

1. Preparation of detailed budget estimates for the construction activities/products for each project and all separate programs/missions.
2. All district S&A expenditures for military projects subject to flat rates, based on ceilings established by HQUSACE and the MSC.
3. S&A costs for Civil Works will be based on the actual costs of managing a project.
4. S&A costs for support for others (SFO) and other DOD customers (i.e., those not under Flat Rate Accounts) will be based on the actual costs of managing a project.
5. To the maximum extent possible, costs will be charged to the benefiting project or to the appropriate flat rate S&A account. Costs which cannot be directly related to a specific project, e.g., overhead, will be distributed based on direct labor charges (USACE, 1993, pp. 1-3).

(2) Chapter 2: Supervision and Administration Activities and Costs.

Provides detailed lists of S&A activities that are allowed to be incurred under each activity. Table 4 lists these activities and their associated allowed costs. It is important to note that indirect costs are all activities and costs at the district level, which are distributed to projects or to the flat rate S&A accounts that cannot be directly traced to a specific project or contract. Indirect costs include Departmental overhead (DOH),

District General and Administrative (G&A) Overhead, and Labor Burden. Unlike conventional S&A costs which are charged to specific projects, indirect costs are first accumulated in pre-established overhead accounts prior to being distributed as additions to direct labor charges (USACE, 1993).

(3) Chapter 3: Management of the Military Supervision and Administration Flat Rate Accounts.

This chapter describes the process that USACE uses to manage S&A Flat Rate Accounts. S&A costs are charged via a flat rate or at cost. When charged via a flat rate, S&A income accrues as a pre-determined percentage (based on appropriation type and location) of the actual construction contract regardless of the actual S&A costs. At cost is different in that costs are reimbursed for the actual costs incurred in performing the S&A activity. The majority of USACE military projects are charged at a flat rate. The following flat rate accounts have been established by USACE to account for the various categories of military projects:

Table 6. USACE Flat Rate Account Structure

Account Number	Account Description	CONUS	OCNUS
VW 65	MILCON Construction	5.7%	6.5%
VW 66	Operations and Maintenance	5.6%	7.5%

Adapted from: USACE. (1993, September 30). *Construction fiscal management (CEMP-CM Regulation No. 415-1-16)*. Washington, DC, USA: Author; D.E. Keenan, personal communication, October 21, 2015.

The above flat rates are re-evaluated on an annual basis. For the most part, these rates have been consistent over the past several years. Similar to the management of SIOH, the flat rate system operates on the assumption that some projects will incur higher S&A costs than S&A income generated, but in the long run will be offset to even out to a zero balance. On average, all work will be within the pre-established rates (USACE, 1993).

(4) Chapter 4: Management of Military Construction “AT-COST” Supervision and Administration.

Establishes guidance to be utilized by USACE to manage projects where actual S&A costs are charged at cost. Unlike projects operating on a flat rate basis, construction funds are used to pay for S&A directly. Both direct and indirect S&A costs are charged directly to the project. It is the responsibility of the district/MSO to ensure that the amount charged is sufficient to cover these expenses. Estimates of direct and indirect S&A costs are part of the initial total project estimate and accounted for during baseline budget process. Each district shall conduct a monthly review comparing actual S&A costs to the baseline estimate, ensuring they are operating within budget. Districts and MSOs will also compare actual S&A costs to income generated, and forward these reports quarterly to HQUSACE for review. The ability for the district/MSOs to operate within its budgeted S&A income plays an important factor in its overall performance rating (USACE, 1993).

(5) Chapter 5: Overview of Accounting for Construction Costs; Other S&A Construction-Related Information.

This chapter provides construction managers with an overview of DOD and USACE requirements for accounting for construction costs to include S&A related items that are not covered elsewhere. This chapter goes into great depth on the management and accounting regulations dealing with construction contracts, but pertains very little on the management of S&A costs. Although S&A is discussed in this chapter relating to contract costs, the scope of this information is outside the purview of this project (USACE, 1993).

(6) Chapter 6: Management of Civil Works' and "Support for Others" Construction Supervision and Administration.

This chapter provides guidance to Civil Works (CW) and Support for Others (SFO) for the management of S&A. As previously mentioned, S&A for CW and SFO projects is executed on an at cost basis. The S&A costs associated with a given project, both direct and indirect, are budgeted based on the estimate of the actual costs that will be incurred during the life of the project. These estimates are established during the baseline budget process and are included in the Project Management Plan (PMP) (USACE, 1993).

Costs incurred by S&A activities are charged directly to the project, to include those costs associated with the facility and operation of a project field office. Each district shall conduct a monthly review comparing actual S&A costs to the baseline estimate, ensuring they are operating within budget. Districts and MSCs will also compare actual S&A costs to income generated, and forward these reports quarterly to HQUSACE for review. The ability for the district/MSCs to operate within its budgeted S&A income plays an important factor in its overall performance (USACE, 1993).

(7) Chapter 7: Forecasting of Construction Placement.

This chapter provides construction departments and manager's guidance and a methodology for forecasting construction placement, ensuring that correct cost codes and accounting deadlines are met and that accurate placement values are recorded in the accounting system. Contract duration, S&A costs/earnings, and S&A man-years are examples of variables to be considered when forecasting construction placement. Construction placement is the accrued value of work performed, and is recorded in the Corps accounting system. Due to the nature and degree of variables involved with forecasting placement, a rigid standardized procedure is not used Corps-wide. MSCs and districts shall establish local standardized procedures and publish written guidance. HQUSACE will report by MCS on a quarterly basis a comparison of forecast and actual placement for each program at the Command Managed Review Conference (USACE, 1993).

(8) Chapter 8: Acquisition/ Establishment of Field Construction Offices.

This chapter provides HQUSACE policy on the acquisition of field construction offices by districts/MSCs. This instruction prohibits the use of S&A funds for the construction and or purchase of field offices. The use of S&A funds for leases or rentals is also prohibited, unless no alternate means is achievable. Provisions of suitable office space are the responsibility of the installation or project sponsor and should be funded by their respective appropriations. S&A funds may only be used if no other sources are available, and must be approved in writing by the District Commander (USACE, 1993).

(9) Chapters 9: Acquisition of Assets Other than Field Offices.

Provides guidance on the acquisition of capital assets required for field office operations to include tools, furniture, and automated data processing equipment. The General Accounting Office defines capital assets as items having an acquisition cost exceeding \$5,000 and a useful life of two years or more. Capital assets that are not funded by the project shall be treated as a departmental overhead cost. Flat rate S&A accounts shall not be used for the acquisition of capital assets. This could result in a violation of the Purpose Statute and Anti-Deficiency violation. Leasing is one exception in which S&A funds may be used, and only if no other funding is available. A life cycle cost analysis must be conducted to determine the best cost alternative (USACE, 1993).

b. Department of the Army ER 37-1-30: Financial Administration, Accounting and Reporting

(1) Chapter 20: Revolving Fund Accounting for Departmental Overhead.

ER 37-1-30, Chapter 20, is a publication of the Department of the Army. As such it details departmental overhead accounts, also known as technical overhead, but does not go into specific detail for accounting for the costs incurred from Supervision and Inspection activities (S&A). This chapter refers to the day-to-day activities of departmental organizations, at the district level, which cannot be directly tied to a specific program, project, or reimbursable order. These indirect costs are organizational, administrative, or supportive in nature. Unlike conventional S&A costs which are charged to specific projects, indirect costs are first accumulated in pre-established overhead accounts prior to being distributed as additions to direct labor charges. For any given project, a percentage is added to the direct labor hours pertaining to that project in order to cover the technical division's costs. Indirect costs accumulated at the district level or below are allocated to Departmental Overhead (DOH). Those indirect costs accumulated above district level are accumulated to the General and Administrative (G&A) account. Both are charged to projects as described above. Both are generically called G&A at different points in the literature (USACE, 2010).

(2) Chapter 21: Revolving Fund Accounting for General and Administrative (G&A) Overhead

ER 37-1-30, Chapter 21, provides guidance for the recording and accounting of general and administrative overhead costs (G&A). G&A overhead costs are incurred by administrative organizations in achieving their operational responsibilities which cannot be directly attributed to a specific program or project. G&A overhead is similar to departmental overhead except for where the expenses are incurred in the USACE hierarchy. G&A overhead are the expenses incurred at the corporate or regional level, where departmental overhead is accrued at the district level. G&A offices provide support to the technical divisions and perform other required functions that cannot be directly tied to a specific program or project. G&A is distributed similar to departmental overhead as it is first distributed in an appropriate overhead account prior to being distributed to a given project or S&A holding account based on direct labor hours (USACE, 2010).

(3) Chapter 22: Accounting for Military and Civil Construction Supervision and Administration (S&A)

ER 37-1-30, Chapter 22, is the primary source for S&A accounting requirements. As such it details the policy for S&A costs to include which costs are allocable to MILCON funding and which must be funded from other sources. The source appropriation that funds a contract determines the S&A rates to be charged. See Table 8 for appropriate S&A rates. In cases where several appropriations are included in the contract, each appropriation is accounted for separately as different S&A rates may apply. Major Subordinate Commands (MSC) and districts are prohibited from negotiating S&A rates or the at-cost method with the customer. Any deviations must be directly approved by HQUSACE (USACE, 2010).

The majority of military projects are charged via the flat rate method, though headquarters may negotiate at cost terms under special circumstances. As stated above, as funds are expended under an appropriated project, a proportional amount of obligation authority is transferred from the project account into the appropriate S&A revolving fund account. S&A flat rate accounts are Revolving Fund (RF) accounts that receive income based on a percentage of construction contract expenses from all active contracts of the appropriate type. Some projects are approved to be performed on an at cost basis. For

these projects, costs are directly charged to the project. Table 7 below describes the S&A RF account structure (USACE, 2010).

Table 7. RF S&A Account Structure

RF 6500	MILCON S&A	Used to record S&A costs of projects funded by MILCON.
RF6600	O&M, Except Defense Environment Restoration Program (DERP) S&A	Used to record S&A costs of projects funded by O&M.
RF6601	O&M DERP S&A	Legacy work item used to record S&A costs of DERP and Base Realignment and Closure (BRAC) projects.
RF68XX	Special S&A accounts for Oversea Contingency Operations (OCO)	Used by Transatlantic Division mission operations.

Adapted from: USACE. (2010, September 15). Financial administration; accounting and reporting (CERM-F, regulation no. 37-1-30). Washington, DC: Author.

S&A costs that are performed on a flat rate basis are not charged directly to the project, but rather to the applicable work items provided in the RF-65, RF-66, RF-68 accounts. S&A costs are distributed at the current S&A rates (provided in Table 8) and charged to the appropriate military project. The charge is assessed as a percentage of contract expenditures whenever an expense transpires. This process results in what is known as “S&A income” to the applicable RF account. At the end of every month, the net gain or net loss of the RF-65 and RF-66 is transferred to USACE Finance. Unlike the RF-65 and RF-66 accounts, the RF-68 S&A account is managed by Transatlantic Division and is not transferred to USACE Finance Center (USACE, 2010; D.E. Keenan, personal communication, October 21, 2015).

S&A activities for Civil Works (CW) and International Service projects are performed on an actual cost basis. Management of S&A performed on the actual cost method is a budgeted based process. Management prepares a project specific budget for S&A and construction placement and executes in accordance with that budget although S&A rates may be used during budget preparation, they are not to be used to as a performance measurement at the project level. Project level performance is based on comparing actual costs to budgeted costs (USACE, 2010).

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IV. COMPARATIVE ANALYSIS OF ARMY AND NAVAL IMPLEMENTATIONS, CONCLUSIONS, AND RECOMMENDATIONS

A. COMPARISON BETWEEN NAVFAC AND USACE IMPLEMENTATION OF SIOH

1. Comparison of Literature

Functionally, the literature guiding NAVFAC and USACE is identical at the DOD level and above. Below this level, the literature remains similar, but diverges to some extent. Both sets of literature are comprehensive and exhaustive. Both sets of literature establish financial management systems that are virtually identical. The two entities even have the same number of guiding documents specific to SIOH or S&A financial management (two each). There are, however several points of difference. The specific areas of difference lie in

- dates and associated maintenance of guiding documents;
- availability of guiding documents; and
- specific lists of items of work associated with SIOH and S&A.

The dates associated with the guiding documents are greatly varied. The oldest instruction is the NAVSO P-1570, dated 1967. The newest is the U.S. Army's regulation no. 37-1-30, dated 2010. The remaining Navy and Army documents fall in the middle at 2002 and 1993, respectively.

While the NAVSO P-1570 is dated, and in most areas superseded, it is still applicable to a portion of the financial management community. Specifically, it is referenced in the P-1000 as the source for detailed guidance on management of SIOH. As such, it is still a valuable resource.

Generally, all of the documents used to research this topic were readily available via the open networks. However, the NAVSO P-1570 is no longer maintained in the open databases owing to its age. As such, it had to be sourced from a longtime employee who happened to have a copy stored in their files. Unfortunately, this particular document is

one of the key guiding documents for management of SIOH and is referenced in multiple active directives.

The specific items of work listed for SIOH and S&A are different. The USACE documentation provides a much more comprehensive and detailed list of S&A activities than can be obtained from the applicable NAVFAC guiding documentation. However, in general, the USACE list is an exhaustive expansion of the 14 items listed in the P-1000 and does not, generally, present any new information, just further constraints and restraints. It is the author's view that this added detail is an attempt to clarify generally broad topics and to further reduce the likelihood of charging items of work to S&A that would not logically or legally be charged there in the first place.

2. Comparison of Structure

Structurally, the two entities are quite different as a result of their different missions. This has an effect on the specific applications of SIOH and S&A. This becomes most apparent in the dispersion of fund management functions across their respective enterprises. To point, USACE distributes management of S&A across all levels of control from their headquarters out to their field activities. Conversely, NAVFAC focusses SIOH fund management at their headquarters and echelon III levels. Both claim that this is largely a factor of their core businesses (L. Williams, personal communication, October 15, 2015; D.E. Keenan, personal communication, October 21, 2015; D. Daniels, personal communication, August 27 2015).

USACE focusses exclusively on construction management and supporting contract actions such as surveys and studies. As a result, all costs and expenses below division level rightfully belong to S&A. Thus, it operates exclusively as a reimbursable entity at the district level and below. This strong reliance on S&A funding for most of its operations means that USACE must be able to manage complex cash flows from large numbers of contracts at all times. Thus, it must provide adequate funds management at all levels. To simplify the management problem, USACE has established the sub accounts at the field activity level. This requirement naturally leads to the structure described above. Additionally, because of the larger numbers of cash flows and greater complexity, the use

of chartered revolving funds is logical to facilitate requirements and reduce the burden on the treasury department. Finally, by utilizing such a small number of accounts, USACE has a simplified financial management and accounting requirement, which reduces the potential for errors (D.E. Keenan, personal communication, October 21, 2015).

In contrast, NAVFAC has a much more diverse operating environment. This results from the breadth of NAVFAC's business lines which range from utilities provision and facilities maintenance to facilities management and construction management. As a result, construction is only a portion of NAVFAC's overall financial management burden. The importance of SIOH is reflected in the presence of dedicated funds managers at the Echelon II and III levels. However, the choice not to have funds managers at the regional and activity levels indicates to the authors a conscious consideration of the work load associated with other funding streams such as the Naval Working Capital Fund and O&MN in comparison with that associated with SIOH. This is supported by the apparent decision to allow SIOH to reside in an accumulation fund with the Treasury department instead of a chartered revolving fund (L. Williams, personal communication, October 15, 2015).

3. Comparison of Management

The differences in structure are reflected in differences in management to some degree. Conceptually, both SIOH and S&A operate in the same manner. Both SIOH and S&A have some set flat-rate surcharge for various types of contracted construction projects, and both assess this surcharge as part of the project cost for funds approval. Finally, both transfer funds from the appropriations at a rate proportional to the outlay against the contract (i.e., for every dollar invoiced by the contractor, a percentage equal to the S&A or SIOH rate is transferred into the appropriate account).

The difference between SIOH and S&A lies in where those accounts are located and how they are managed. SIOH accumulates in an accumulation account located with the U.S. Treasury which is charged against by appropriate activities and personnel in support of the various projects around the world. The account is managed by full time personnel at NAVFAC HQ and at the Echelon III commands (NAVFAC PAC, NAVFAC

LANT and the specialty centers). In contrast, S&A accumulates in a series of revolving funds chartered by USACE. These revolving funds are managed at every level of command within USACE, reflecting a culture based on their efficacy. Once a month the revolving funds are reconciled to a zero balance and the net gain or loss is transferred to or from the USACE Finance Center (UFC) from or to the appropriate revolving fund. The larger numbers of personnel involved in the management of the USACE revolving funds would indicate a larger recurring investment in their management, and a corresponding larger expense. Conversely, the smaller numbers of personnel involved in managing NAVFAC's accumulation fund would indicate a leaner, less costly management operation. In the author's opinion, both systems are equally viable and each reflect the requirements of the individual construction agents.

B. CONCLUSIONS

This project was tasked to determine the following:

1. Is there a significant difference between NAVFAC implementation and management of SIOH and USACE implementation and management of S&A?
2. Would any differences have an impact on the ability of NAVFAC to pass a comprehensive audit?
3. Would directly funding SIOH activities from Navy O&M accounts afford any savings?

1. Significant Differences

As discussed in section A of this chapter, some differences do exist in all examined areas relating to S&A and SIOH. The differences in documentation were in the age of the instructions, their resultant availability, and in some of the levels of detail that they provide. The differences in structure and management were closely intertwined and were largely isolated to the nature of the accounts where S&A and SIOH funds accumulate prior to expenditure and the resultant nature of the management of those accounts.

The document differences were driven largely by the age of the primary detailed reference for SIOH, the NAVSO P-1570. The age of this document likely drove its

relative unavailability. It is possible that the fact that it has not been updated in almost 50 years has also driven the lack of detail in the NAVFAC table of allowable SIOH charges. The lack of updates may also be due to the perception that NAVSO P-1570 was superseded by the DOD FMR. It is also possible that this lack of updating has resulted in the continuation of the practice of including this document as a reference in both NAVFAC literature and in the NAVSO P-1000. All other documents were relatively recent and generally reflected similar financial management practices.

In terms of management and structure, the differences revolve around distribution of funds management across the various echelons. USACE has tasked all levels of command to manage S&A funds to ensure that every transaction is appropriately categorized and allocated. Given that approximately 95% of USACE activities are funded by S&A reimbursement, USACE has chosen to place a much higher emphasis on management of S&A accounts (D.E. Keenan, personal communication, October 21, 2015). This reflects an institutional view that S&A is the “Lifeblood” of the agency (D.E. Keenan, personal communication, October 21, 2015). In order to facilitate this, added levels of bureaucracy have been added to the financial management of S&A. This enables USACE to track and manage S&A funding at all levels of command, from the field activity up to the headquarters level (D.E. Keenan, personal communication, October 21, 2015). USACE has also chosen to utilize revolving funds to collect and manage S&A funds from projects and to disburse those funds as work and expenses are charged against it. Additionally, the revolving funds require additional work to reconcile them monthly (D.E. Keenan, personal communication, October 21, 2015; USACE, 2010).

NAVFAC has instead chosen to centralize management of SIOH funds to the Echelon II and III levels. This is in agreement with the proportion of their business which relies on SIOH funding as only the construction management, maintenance services (e.g., custodial services and grounds maintenance) and real estate business lines have access to SIOH funding. Instead of revolving funds, NAVFAC has chosen to utilize an accumulation account with the U.S. Treasury to collect and disburse SIOH funds. This is in keeping with the structure of NAVFAC as a whole and with its relative volume of

construction work (D. Daniels, personal communication, August 27 2015; L. Williams, personal communication, October 15, 2015).

2. Impact on Audit Readiness

The authors' ability to assess the ability of NAVFAC SIOH accounts to pass an audit is limited to assessing the documentation available to us. The intent of this project was not to conduct an audit ourselves, but instead to compare the systems in place. From this comparison, we were able to draw some conclusions with regard to SIOH controls and how they compare to general audit requirements.

The basic rules of audits with respect to management controls can be summed up to the answers to three questions: Are there management control systems in place? Are they adequate? Are those systems being followed? The authors are in a position to opine on the first two (USGAO, 2014).

Based on a review of the documentation and interviews, internal controls are in place for SIOH. These internal controls consist of determination of SIOH rates, application of SIOH rates to project cost estimates and resulting appropriations, holding of SIOH funds with the appropriation until the project expends funds, the transfer of obligation authority back to the U.S. Treasury and finally the charging of funds against the accumulation fund.

Based on the discussion in Chapter II, the authors believe that SIOH's internal controls are in fact auditable. Based on the fact that NAVFAC has previously passed its portion of audits, as has USACE, but that overall, the U.S. Army and Navy have not succeeded in obtaining an unmodified audit opinion, there is no reason to believe that any changes based on the practices of USACE will improve NAVFAC's SIOH auditability (D.E. Keenan, personal communication, October 21, 2015; D. Daniels, personal communication, August 27, 2015).

3. Alternatives Examined: Mission Funding of SIOH Personnel and Expenses

There is a possibility that NAVFAC may realize savings by directly funding SIOH activities from the Navy's Operations and Maintenance appropriation. Directly funding SIOH activities would remove the need for SIOH financial managers, which currently occupy about four full-time employee positions at the echelon II and III levels. However, these positions would then be required to manage the added workload for the O&M fund. Such a change would require changes to Title 10, DOD instructions, and the agreement of USACE as it would affect them as well. Finally, it would require costly changes to financial management systems currently in place. There would be no savings in transaction costs as such costs are incurred only when DFAS writes a check or transfers funds to a non-governmental entity (e.g., paying monthly payroll or invoiced expenses.) As a result, it is unlikely that there would be any net savings and there would possibly be significant resistance from USACE and their S&A program.

C. RECOMMENDATIONS

The current structure and management of SIOH appears adequate and does not require any changes. In the author's opinion, it has a lean but robust financial management structure that is appropriate given the NAVFAC mission and work load. We did not observe any practices at USACE that would clearly benefit the Navy.

However, the current financial management instructions that are applicable to SIOH require updating and possibly consolidation. It has been nearly 50 years since the last time NAVSO P-1570 was revised. There appears to be a perception in the NAVFAC comptroller's office that the P-1570 has been superseded by the FMR. This is true, to a degree. The NAVSO P-1570 provides direction for the financial management of military construction projects in detail. This direction includes management of SIOH accounts. The procedures for MILCON funds and ledger accounts have indeed been largely subsumed into the FMR. However, the detailed procedures for SIOH and SIOH accounting have not. As the P-1000 is intended to implement the FMR at the NAVY level, it would be the natural source to provide that detailed guidance. Despite this, the

NAVSO P-1000 still refers to the NAVSO P-1570 for detailed guidance on the financial management of SIOH.

The conclusion that it is still relevant is supported by the USACE documentation. If the FMR provided sufficient detailed guidance for implementation of S&A and SIOH, USACE would not be required to maintain and utilize separate guiding documentation for S&A. However, this is not the case, as USACE does maintain S&A guiding instructions. From the amalgamation of the available evidence, it is the authors' opinion that the NAVSO P-1570 is still relevant and viable with respect to SIOH, but not with respect to the larger financial management of military construction projects.

Given what else NAVSO P-1570 contains, it is the authors' recommendation that NAVSO P-1570 be revised by the sponsoring activity to remove superseded and duplicate information and instructions, align it with current practices, and assure the general quality of the work and its availability. This would likely make it into a SIOH *Financial Management Handbook* with detailed instructions on that subject instead of a *Military Construction Financial Management Handbook*. In order to save effort, large portions of the two applicable army instructions for S&A could likely be reused for this purpose, changing only those details which are not applicable to the Navy. This may also have the added benefit of aligning Navy and Army S&A and SIOH items of work.

There is currently an ongoing audit of NAVFAC that includes samples of SIOH transactions for the first time. Based on the results of this audit, there may be a requirement to make changes in excess of those recommended in this report.

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